DOCUMENT RESUME

ED 406 642 CS 012 772

AUTHOR Klein, Patti J.
TITLE Evidence of Vocabulary Development in Television Programs for Preschoolers.
PUB DATE Apr 97
NOTE 91p.; M.A. Project, Kean College of New Jersey.
PUB TYPE Dissertations/Theses - Masters Theses (042) -- Reports - Research (143)
EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS *Childrens Television; Comparative Analysis; *Educational Television; Language Acquisition; Media Research; *Preschool Children; Preschool Education; Qualitative Research; Statistical Analysis; Teaching Methods; *Television Viewing; *Vocabulary Development
IDENTIFIERS Research Suggestions; Television Networks

ABSTRACT

A study explored the vocabulary development available in a variety of current preschoolers' television shows. A quantitative analysis of seven programs on two networks (PBS and Nickelodeon) was undertaken over a total viewing time of 40 hours; a qualitative analysis of techniques used to present vocabulary was also documented for these shows. Comparative analysis of PBS and Nickelodeon showed no significant difference in the amount of vocabulary presented on the two networks. Qualitative analysis indicated that although a variety of techniques were used, most shows employed the same set of techniques repetitively. More generally, the study indicated that (1) the total amount of vocabulary presented for consumption in each episode, show, and network is astounding--the availability for language acquisition is unclear; (2) statistically, the top shows of two major networks were not significantly different in the amount of vocabulary presented; and (3) there was quite a range of quantity presented among the different episodes, even among shows using the same few techniques. The ability to learn from each of the techniques was not part of this study; it is an area needing further development. (Contains 16 references and 3 appendixes of research material.) (TB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 406 642

EVIDENCE OF VOCABULARY DEVELOPMENT IN TELEVISION PROGRAMS FOR PRESCHOOLERS

BY

PATTI J. KLEIN

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

P. Klein

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Presented In Partial Fulfillment of the
Requirements for the Degree of Masters of Arts

Kean College of New Jersey

April 1997

CS012772

BEST COPY AVAILABLE

TABLE OF CONTENTS

		Page
I	Abstract	ii
II	Acknowledgment	iii
III	Dedication	iv
IV	List of Tables	v
IV	Evidence of Vocabulary Development in Television Programs for Preschoolers	
	Introduction	1
	Hypothesis	3
	Procedures	5
	Results	8
	Conclusions	14
V	Television Effects on Language Learning: Review of Related Literature	17
VI	References	35
VII	Appendices	37
	Appendix A: Episode Recording Dates	38
	Appendix B: Quantitative Vocabulary Evidence	39

Abstract

This study explored the vocabulary development available in a variety of current preschoolers' television shows. A quantitative analysis of seven shows from two networks was undertaken over a total viewing time of 40 hours; a qualitative analysis of techniques used to present vocabulary was also documented for these shows. It was concluded that in a comparison of PBS and Nickelodeon, there was no significant difference in the amount of vocabulary presented on the two networks. The qualitative analysis indicated that although a variety of techniques were used, most shows employed the same set of techniques repetitively.

Acknowledgment

I wish to express my appreciation to Dr. Albert J. Mazurkiewicz (Chairperson of the Department of Communication Sciences at Kean College of New Jersey) for his valuable guidance that made the completion of this study possible.

Dedication

I wish to acknowledge the encouragement of Warren Klein, my husband. Warren supported my efforts with his time, interest and love to further my personal endeavor.

List of Tables

	Page
Table I: Means, Standard Deviations and t of the PBS and Nickelodeon Networks	8
Table II: Means, Standard Deviations and t of the shows Arthur and Busy Town	9
Table III: Means, Standard Deviations and t of the PBS show Sesame Street and Nickelodeon's Busy Town	9
Table IV: Means, Standard Deviations and t of PBS' Barney and Nickelodeon's Busy Town	10

My daughter commented to me one day while watching The Land Before Time III, that she would like to go into the television so she could be with her friends, specifically Sera. She wanted to know how she could get there. When I told her that someone drew Sera and friends into the movie, she wanted to know if that person could draw her in there with them. I said that it was possible; she then wanted to know how it could be done. I responded with the favorite of parents – "Magic." She said OK – this was something she understood – magic. Later that summer she and her twin sister, met a woman named Sarah on a bus going into Disney World from our hotel. They, just 4 years old, proceeded to enumerate the several Sarah's they knew – three, one of which was Sera from their favorite movie. To a child, the world of places and people that television brings into their lives is real. It is how they view the world and learn about it, just as they do from all their experiences.

Given that children in our society spend a significant amount of time watching television programs, and that preschoolers are at a critical point in their development of verbal language, it is important to evaluate the quality of programming available today relative to the contribution these programs make in building vocabulary. It is important that specific factors about television viewing and programs be investigated to influence the fostering of a literate society. Understanding how television and reading achievement are related is a factor; another factor, which is the basis for this thesis, is to take known methods for improving literacy and evaluate the existing television media to determine the extent this vehicle supports them. This will enable parents, educators and program creators to make educated decisions about how our children spend their time.

"Television has had a bigger impact than any other leisure-time pursuit on the amount of reading a child does." (Busch, 1978) The relationship between television and reading achievement has been explored and shown that when viewing time is limited to three hours per day, there is a positive relationship between viewing and reading achievement. (Reinking and Wu, 1990) Thus, given that television viewing can be beneficial for developing literacy, we must begin to understand the qualities in television programs that effects this positive relationship in reading achievement.

In the search for a powerful factor that influences this relationship, literature indicates that vocabulary development is fostered through television viewing. (Busch, 1978) Schramm concluded that TV helped the low achievers develop vocabulary skills that the non-television children did not have. Schramm found that TV was a major factor in the vocabulary enrichment of preschoolers and first-graders. This enrichment aided the development of reading readiness skills. "Because an increase in exposure to new words aids in vocabulary expansion, a tool in the reading process, television's effect on reading for the preschooler and first-grade reader is of major proportion, according to the preschool teachers [surveyed], regardless of program content." (Busch, 1978, p. 668)

There have been many studies conducted by Rice and colleagues (Rice, et.al. 1984 - 1988) that have explored the use of this powerful tool for language acquisition in children's television programs. They have looked at the type of language structure and content found in a few of the favorite shows and compared them to the qualities known in "motherese." "Motherese" is a proven style of communicating which supports language acquisition in young children. Their conclusions indicate that the research "suggests that some television programs designed for young children do provide dialogue well-suited to children's linguistic competencies. The linguistic features of educational programs are strikingly similar to the adjustments mothers make in their live interactions with young children." (Rice, 1984, p. 457) In addition, Rice found that children's television programs are highly verbal, as well as visual, and that this would pose a challenge as the verbal messages range in complexity from those well suited to children's competencies to those with higher order processing demands. Finally, by evaluating the types of word meanings depicted in shows, Rice and Woodsmall, in 1988, found that young viewers were able to engage in rapid on-line processing of the narration that involved noting the presence of a new word and arriving at an instantaneous attribution of meaning. She concludes with a statement that supports young children's learning of new words; however, with the caveat being – "given an appropriate script." (Rice and Woodsmall, 1988, p. 427)

A conclusion may be drawn from this research that since television viewing, within the 3 hours per day limit, aids in the development of vocabulary for preschoolers, overall reading achievement will be greater provided the features of the video presentation are meaningful. It appears desirable, therefore, that researchers explore and quantify the evidence of vocabulary development within the programs available to this audience today, with the intent to contribute to an overall understanding of the value that television may have on reading achievement through this powerful tool.

Hypothesis

To provide additional information on this topic, the following study was undertaken. It was hypothesized that there would be no significant difference in the quantity of vocabulary developed or the techniques used in the presentation of vocabulary in a variety of preschoolers' television shows on two different networks.

Assumptions, Limitations and Delimitations

1. The researcher can accurately identify evidence of vocabulary development
2. No consideration in this study for qualification of "new" vocabulary to the preschooler
3. The quantity of "vocabulary experiences" to facilitate individuals' acquisition of language is not considered
4. Selection of preschoolers shows were made during morning hours; this is a deliberate attempt to evaluate targeted programs, not television shows in general.
5. Sesame Street's vocabulary development totals, when adjusted for ½ hour show length, accurately reflects an even distribution.

Definitions

Accounts: narratives generated by either the teller or another party to provide new information or new interpretations of information that may already be known to both the teller and the listener.

Emphasis: a means of giving selected prominence to a linguistic constituent for some sort of communicative purpose

Event cast: a running narrative on events currently in the attention of the teller and listener. The narrative may be simultaneous with the events or precede them.

Fast Mapping: A hypothesized process enabling children to rapidly create lexical representations for the unfamiliar words they encounter. It consists of a quick, initial partial understanding of a word's meaning, involving a restructuring of the lexicon and restructuring of the underlying conceptual domain, that can be accomplished on the basis of a single exposure. (Carey 1978)

Focusing: A means of giving selected prominence to a linguistic constituent for some sort of communicative purpose. Examples are stress, repetition and recasting. (Rice 1984)

Immediacy: comments according to the presence or absence of referents (referent immediately present on screen, removed from sight, or nonreferential comments)

Meaning vocabulary: words for which meanings are understood, it is essentially the set of labels for the clusters of concepts that people have learned through experience.

Recounts: retellings in which information is known to both the teller and the listener

Schemata: the clusters of concepts of knowledge structures

Self-repetition (recasts): repetition of targeted words in similar but not identical grammatical contexts

Stories: include an animate being who moves through a series of events with goal-directed behavior.

Tie-ins: The methods of relating books to television and movies. There are several –

- Books on which television shows are based
- Books based on television shows using similar story, characters and/or subject
- Materials such as posters, biographies and references to related books
- Television interviews with children readers, heroes, and critics
- Script reading and analysis

Procedures

The research was conducted by observing preschoolers' shows on two different channels – PBS and Nickelodeon – for a total of twenty hours each channel, which was equivalent to two weeks of shows, Monday through Friday. These networks have a strong following with this audience; the shows selected are among the most popular with this age group and demonstrate educational intentions. The times and days were selected since the patterns of most households where preschoolers have television available would indicate that activities occur after this time. It is the same period of time that the networks have scheduled shows targeted toward this audience. This provided an overall total of 40 hours of viewing time, with a comparison possible of two different children's networks.

The shows monitored were:

PBS: Sesame Street, Barney and Arthur. Times: 7-8, 8-8:30, 8:30-9 a.m., respectively; Dates: 12/30/96 through 1/27/97.

Nickelodeon: Richard Scarry's Busy Town, Rupert, Allegra's Window and Gullah Gullah Island. Times: 9:30-10, 10-10:30, 11-11:30, 11:30-12 a.m., respectively; Dates: 12/30/96 through 2/5/97.

Note: Exact dates for each show are found in Appendix A. An attempt was made to record all episodes on the exact same dates; however, due to repetition of episodes within the two week time period, it was

desirable to record additional episodes so that each show would have a total of ten unique episodes for analysis.

Sesame Street was selected to provide a well researched comparison of a popular preschool program that emphasizes cognitive skills; a baseline for comparison of the other programs selected. (Rice & Haight, 1986) An obvious omission is the show Mr. Rogers' Neighborhood. This show has been studied for quite a long period of time and has been held as a model for affective content. Its focus is young children's social and emotional development. "Overall, the dialogue of these two children's educational television programs provides a model of language form, structure, and use that is well suited to the young viewer's linguistic competencies." (Rice & Haight, 1986, p.286) The program Sesame Street was selected for this study over Mr. Rogers' Neighborhood, both highly regarded as contributing to language acquisition, because of the focus on cognitive skills rather than emotional development.

The shows were videotaped and viewed for analysis. Examples of the types of words (object, action, attribute) were recorded, using peg counts for number of occurrences. A model was developed to evaluate the techniques employed for vocabulary development. Notes were taken with the intent to document the specific words and situations. The format for the model is shown below. It identifies the various methods used in television shows to teach the meaning of words, enhancing comprehension of the program and reinforcing the vocabulary learned.

The basis for this model came from several studies: Rice 1984, Rice and Haight 1986, Rice and Woodsmall 1988, Dollaghan 1985, and Rice 1988. These studies specifically targeted the attainment of verbal language from television viewing. Some studies identified characteristics of mothers' speech to young children that may be present in programs; others presented a structure for verbal communication with elements that were appropriate to the medium; some investigated the adjustments made to presentation packaging to enhance comprehension. The model developed and used here is a composite of the many traits and characteristics known about language acquisition and television viewing from these studies and focused on the development of preschoolers' comprehension vocabulary. The characteristics

of the learning environment, i.e., style of presentation, are also included in the model to the extent it is obvious that these are tools that facilitate the development of vocabulary.

Vocabulary Development – Quantitative Analysis

Word Types	*Peg Count*	*Documentation*
Object		
Action		
Attribute		

Communication Techniques – Qualitative Analysis

Meaning Content	*Notes / Documentation*
Slow Rate of Talking	
Immediacy of Referent	
Emphasis	
Literal, Novel Words	
Explicit Instructions	
Simplicity of Context	
Visual Production Techniques	
Discourse	*Notes / Documentation*
Recounts	
Accounts	
Event Casts	
Stories	
Linguistic	*Notes / Documentation*
Referent Information	

Phonetic Characteristics	
Syntactic Frame	
Situation Encountered	
Relationship to Words Acquired	

Results

The videotapes of each episode were collected and then analyzed from two perspectives: quantitative evidence of specific vocabulary development and qualitative documentation of the styles used by each show to engage the viewer. Appendix B shows a summary of the vocabulary development found. An adjustment was made for Sesame Street by dividing the amount of words introduced into two parts as this show was twice the length of the others. In the following order, the shows are ranked from the greatest amount of vocabulary presented to the least: Busy Town, Sesame Street, Barney, Gullah Gullah Island, Rupert, Allegra's Window and Arthur.

A comparison of the two networks PBS and Nickelodeon shows there was a difference

Table 1

Means, Standard Deviations and t of the PBS and Nickelodeon Networks

Sample	M	SD	t
PBS	334.3	76.6	1.77
NICKELODEON	284.3	46.0	

between the means of the samples' quantity of vocabulary development and this difference was statistically not significant. The probability was 9% that this could have happened by chance. The overall hypothesis is supported that there is no statistical difference between the networks in the quantity of vocabulary developed for a variety of preschoolers' educational shows.

Looking at a comparison of specific shows on two networks -- Arthur and Busy Town, there was a difference

Table II

Means, Standard Deviations and t of the shows Arthur and Busy Town

Sample	M	SD	t
PBS - Arthur	59.3	15.7	-5.82
NICKELODEON - Busy Town	115.4	26.1	

between the means of the samples' quantity of vocabulary development and this difference was statistically significant. The probability that this could have happened by chance was 0%. Thus, looking at the two extreme representative shows of the greatest and least amount of vocabulary presented yields results that are not surprising.

Comparing the shows with the greatest vocabulary development across the two networks PBS and Nickelodeon yields a difference

Table III

Means, Standard Deviations and t of the PBS show Sesame Street and Nickelodeon's Busy Town

Sample	M	SD	t
PBS - Sesame Street	97.5	21.5	-1.67
NICKELODEON - Busy Town	115.4	26.1	

between the means of the samples' quantity of vocabulary development and this difference was statistically not significant. The probability that this could have happened by chance was 11%. Again, results that are supportive of the hypothesis and as expected when comparing the best of each network.

To look at exactly how close the show with the greatest vocabulary development compares to the next best show on the competing network, a difference is apparent

Table IV

Means, Standard Deviations and t of PBS' Barney and Nickelodeon's Busy Town

Sample	M	SD	t
PBS - Barney	79	25.0	-3.18
NICKELODEON - Busy Town	115.4	26.1	

between the means of the samples' quantity of vocabulary development and this difference was statistically significant. The probability of this occurring by chance is 1%.

Thus, quantitative analysis of vocabulary development available within these shows indicates that the two networks can compete with each very closely, with no significant difference overall; that certain shows are significantly different with respect to the amount of vocabulary available to the audience; and that each network's top show for vocabulary presentation does not differ significantly when compared to each other. Note: The amount of time by network devoted to each episode differed for the two networks. Nickelodeon had more lead-ins and trailers in each show compared with PBS. Future studies may want to factor in the exact program length into the significant hypothesis.

During the observation of each episode, notes were taken using the model designed for documenting communication techniques employed. The highlights and some of the most interesting approaches are noted below for each show.

Sesame Street:

Sesame Street is filled with incredibly diverse vocabulary with educational techniques just as diverse for communicating meaning, reinforcing and holding the attention of its viewers. It appears that this shows is

structured such that a child can tune in and out as they go about their activities in the home and still continue to grasp concepts and learn words. At times a very fast presentation of a lot of information. The speed of presentation of the vocabulary appears to increase as the show progresses. A simple, brief theme runs through the entire show but only as excerpts placed throughout. In between, there is a great deal of sometimes, disconnected vocabulary with transitions to take a viewer on a path of stream of consciousness learning. Concepts are introduced from the perspective of the viewer, not necessarily from the perspective of the actors/characters involved in the scene. There is effort to speak directly to the audience and elicit a response from the viewer. Recounts, accounts, event casts and stories are all methods of discourse incorporated in this show. Immediate referents are usually present with a great deal of emphasis (repetitions) in many forms, such as people relating information, then characters, then repetition in song, etc. There is even repetition of vocabulary by a speaker just for the sake of repetition. Vocabulary also focuses on abstract concepts using synonyms to communicate meaning. For examples, superlatives and size/positional attributes of the following words – small, little, tiny, itsy-bitsy and big, enormous, humongous, tremendous, stupendous – were used in one episode to communicate an abstract meaning of size. There was very clear, show articulation of the words use in the basic theme; others were presented at a rapid pace. An interesting technique used was the physical acting out of words. Sesame Street was the only show that was noted as using visual production techniques (such as zooming in on an immediate referent to communicate meaning.

Barney:

Characters are live actors, excluding full-sized puppets Barney, BJ and BabyBop. Friends are a very important element of the interaction and learning. There is one central theme to each episode with affective vocabulary, emotive discussions and physical expression of friendship through touching and hugging, evident throughout. Event casts and stories acted out by the children provide a strong framework for organizing teaching of vocabulary within the topic. A great deal of definition provided directly; sometimes even the direct spelling of the vocabulary. Children acting upon the learning – relating the learning to their friends. There is a somewhat slow pace with not much repetition. Songs are

used to portray meaning and modeling of concepts. For example, safety rules are sung, then acted out, discussed and read from an easel to teach the concept. Also, the songs are used to provide repetition. A great deal of effort is devoted to making all learning concrete, one technique being the simplicity of context.

Arthur:

Arthur's cartoon characters are truly "real" people by the depth of character development maintained throughout the shows. There are always central themes for each vignette, consistently surrounding the overall concept of believing in yourself, getting along with others and learning to work and play. The overriding value of developing self-esteem is clear. The level of these shows exhibits a bit older perspective than say Barney and Sesame Street. The discourse is remarkably varied, including recounts, accounts, event casts and stories sometimes within a single vignette. A unique feature of the Arthur shows is that during the break between the two vignettes of each show, children are discussing the literary elements within the vignettes. This is a very nice use of modeling for children writing letters, stories and drawing pictures to relate and analyze the topic, characters' reactions to situations, problem solving. Looking at meaning/content, Arthur appears to be relying on the viewer to connect the theme as identified at the start of the vignette, to the behaviors of the characters and thus learn the vocabulary presented. Hence, one of the reasons why this show is no doubt for an older audience. Specifically, the program uses novel words, sometimes the referents were a bit removed in time from the vocabulary introduced; and synonyms were used for emphasis and repetition.

Busy Town:

This is an animated character show with a story discourse format. There is focused learning within short vignettes, which are thematic. The mode of communicating meaning is predominantly the use of immediate referents. Repetition among the episodes of the same words is noticeable; there is some repetition within an episode among the vignettes. Characters, peculiar traits of those characters and their living environment are part of each episode and hence repetition exists within this structure. For

example. Mr. Fumble is always losing his hat. Use of colloquialisms occurs, but infrequently. The overwhelming experience the viewer derives from this show is the amount of focused vocabulary presented and developed with obvious immediate referents.

Rupert:

The characters in Rupert are animated, with more character development than those in Busy Town, but less than those in Arthur. The overall thematic content is oriented toward adventure. Rupert visits foreign lands and situations that may not be familiar to most children and hence may provide background knowledge to a future reader. There is more sophisticated language and varied use of language than all of the other shows analyzed. Use of figurative language, colloquialisms such as "run out of steam", "weight of the world lifted off his shoulders", similes, etc. are such examples. An audience older – closer in age to Arthur, rather than Barney is appropriate. Meaning and content are derived from the use of contextual clues, with immediate referents available as well. Explicit definition, thematic development for emphasis and repetition of words and their synonyms, and very clear enunciation of words are all techniques employed by this entertaining show.

Allegra's Window:

All primary characters are puppets, representing multicultural dimensions. The discourse format is story. There was an obvious use of nonsense words; quite often there was no definition, referent or contextual ways to derive meaning. Emphasis occurred by different characters repeating words; sometimes repeating words in song.

Gullah, Gullah Island:

Characters are live actors, with one full-sized puppet – the PollyWog; setting is a Caribbean Island, utilizing at times the environmental/cultural uniqueness to teach related vocabulary. Song is an important part of the lives of the characters. A central theme running throughout all shows is one of problem

solving, taking responsibility for actions and working together as a family and community. Episodes rely on event casts as a means of discourse, with accounts and recounts being told like parents would relate stories of their own past lives and experiences to their children. Characteristic use of slow speech. Some speaking to the audience directly; audience is addressed at other times through songs and finger plays. Episodes visits places like a field trip to support learning. To communicate meaning, Gullah, Gullah Island uses immediate referents – the field trips are a strong technique for presenting a wide variety of vocabulary, some emphasis in repetition that would naturally occur in language, similes, and explicit instructions/definition from the format of family discussions about a topic during problem solving. There is one theme per episode.

Overall, the qualitative analysis showed that most shows relied on fairly simple methods for reinforcing vocabulary – predominantly immediate referents and thematic tie-ins. Only Sesame Street employed a wide variety of educational methods and hence explains why it has been such a popular favorite among parents and educators. A recommendation for significant research is work that focuses on the qualitative methods analyzed, identifying by age/ability the effectiveness of the range of techniques used by each network/show.

Conclusions

It is obvious from the review of related literature and the study undertaken that being a critical, informed parent, educator and viewer is necessary to being a responsible consumer of this visual medium. What has been learned from this research?

- The total amount of vocabulary presented for consumption in each episode, show and network was astounding. The availability of vocabulary for language acquisition is clear.
- Statistically, the top shows of two major networks (for preschoolers' educational programs) were not significantly different in the amount of vocabulary presented and even more

importantly, across all shows analyzed, there was no statistical difference between networks. Thus, the networks and producers of the top preschoolers' educational shows may have realized the maximum potential quantity of vocabulary development possible within the time allotted.

- Although all shows demonstrated an objective of teaching vocabulary, there was quite a range of quantity presented in the episodes; even among shows that used primarily the same few techniques. Consistency among and within the production of educational shows may be a suggested area of opportunity for improvement.
- There are a wide variety of techniques available to developers of educational programs and a very few techniques are used almost exclusively by the majority of shows. This subjective analysis may indicate a need for greater creativity of educational presentation techniques for vocabulary development.
- The ability to learn from each of the techniques used by the networks and programs was not part of the study. Research should continue to evaluate how effective certain techniques are for acquisition of language and the improvement of literacy of our society.

From the literature research and independent analysis conducted as part of this study it is concluded that television viewing can be positive, that learning can occur from the viewing situation, that specifically reaching achievement can be influenced by viewing, that vocabulary is an important element in positively influencing literacy, that viewing is a verbal activity with a great deal of vocabulary development possible, that networks attempt to provide responsible programming with vocabulary presentation high on the list of goals and that techniques used in language acquisition are used by the current preschoolers' educational programs. What hasn't been obvious from the research is that an understanding of the specific techniques necessary for language acquisition is present in the right amounts and mixture for optimal learning. Inconsistency in the amount of vocabulary presented, lack of creativity and development of proven techniques for language acquisition and the overall lack of clarity in the educational mission of the show indicate areas where improvement could result in greater positive impacts on our society's reading

achievement. Our society is in a stage of adolescence in the ability to harness the power of this medium for achieving the goals at large – learning and growing but still developmentally in need of focus and the skills to execute well.

Television Effects on Language Learning: Review of Related Literature

The concern about the effect television will have on our children is a theme that is expressed by the energy educators, researchers, parents and the media have placed on finding answers to the many questions regarding its influence. Research over the past several decades has focused initially on the impact of viewing on reading achievement. Presently, the factors responsible for the effects are being identified, analyzed and evaluated to determine how to utilize the medium to produce desired literacy improvements – the assumption is that television will be part of our society. Somewhere along the way, there has been an acceptance that television is desired by our society, that its effects are complex – positive, negative, perhaps both – and that we must understand how to use it to our advantage and spend our energy influencing those that have control over the design of programming as well as educating our parents and children about the appropriate ways of using this medium.

Summarizing an article written by Zuckerman, Singer and Singer in 1980, clearly there is concern about the negative effects on children, our society and reading. At this time it is also clear that acceptance of the longevity of television has occurred and that a shift in research toward factors that make it work versus fighting its existence is forthcoming. They discuss: The relationship between television viewing and reading and school behaviors has been explained in several ways. 1. The most obvious is that television viewing "displaces" reading. Displacement may be especially relevant in the elementary school years. 2. From a physiological viewpoint, television viewing may have a deleterious impact on reading because the two activities involve different brain function. Visually presented material is apparently processed primarily by the right side of the brain in a global fashion. Printed material or complex verbal or mathematical sequences seem to engage primarily the left side of the brain. 3. Some researchers have expressed concern that television viewing is enhancing a strong preference for or reliance upon global visual representations. As a result, children, and later adults, will probably be less patient at making the effort required to process auditory verbal material, such as teachers' lectures, or to deal with reading material. 4. Research on the amount of brain activity suggests that there is more extensive and diffuse brain activity during reading than during television viewing. The fast pacing of most television programs may have a negative influence on children's learning habits and expectations. 5. The passive nature of

television viewing is also a potentially important issue. Most television programs are so quickly paced that they do not provide enough time to assimilate the information, consider the "message" or use one's imagination. Television programs rarely offer quiet periods during which the child can engage in the imaginative play that is an essential part of the child's behavioral repertory. "Since reading is a basic skill for effective functioning in society, we have to be concerned about the possibility that heavy television viewing may interfere with the child's development of reading skills." (Zuckerman, Singer and Singer, 1980, p. 168).

However, for all the reasons that television may detrimentally influence our society and reading achievement, they note from a study: "When IQ or socioeconomic status were controlled, the relationships between television viewing and school achievement were no longer significant." (Zuckerman, Singer and Singer 1980, p. 168). They conclude – "Television is a major new factor in the human environment, and its impact on children's reading and school behaviors is an issue that deserves serious attention. We believe that understanding the relationship between children's program choices and reading and school behaviors can help us to determine how to modify television's impact in order to maximize its benefits to children." (Zuckerman, Singer and Singer, 1980, pp. 173-174).

Reinking & Wu provide a review of research on this relationship between reading and television viewing and highlight the important works that have taken us from a negative position to the present where exploration of relationships is the norm. "The intuitive belief that television viewing was having a wide-spread negative impact on reading guided the research conducted prior to 1980. The lack of clear evidence for this belief has led researchers to adopt a more theoretical orientation in their investigations of television and reading. Instead of looking for evidence of ill-defined negative effects, they have sought theoretical explanations for existing data or have proposed theoretical positions to guide data collection." (Reinking & Wu, 1990, p. 37)

By the early 80's, research did not clearly indicate a strong relationship between television viewing and reading. Either viewing had not had any significant impact on reading or researchers had been unsuccessful in their attempts to discover how they were related. More recent studies indicate that television and reading may be related but that the relationship is extremely complex, involving many interacting variables not often examined in earlier research. An example is cited of a study by Ritchie, Price and Roberts in 1987, where they controlled the reliability of the measurement instruments. Viewing time, reading time and reading achievement were highly correlated and remained stable over the 3 years of study, indicating that television viewing was not affecting either the amount of time students spent reading or their reading achievement. Analysis that did not control for the reliability of instruments supported previous findings that there was a negative correlation. Ritchie, Price and Roberts (1987) suggested four possible explanations for the lack of relationship between reading and television viewing; one of which is that the relationship can only be explained in terms of complex, interacting variables that have offsetting positive and negative effects on reading achievement. (Reinking & Wu, 1990)

Studies post 1980 began by quantifying the relationship between viewing time and reading achievement. "A robust finding from several large scale studies conducted since 1980 is that the relationship between television viewing and reading achievement appears to be curvilinear. That is, up to moderate levels, increased television viewing is related to greater reading achievement, but as viewing time increases above moderate levels, reading achievement decreases. Felter (1983), for example, found that reading achievement tends to increase as children watch more television up to approximately the mean of three hours daily. Above three hours daily, achievement decreases appreciably." (Reinking & Wu, 1990, p. 34) "Neuman (1988) found that the reading achievement of students who were more moderate viewers fell within a much narrower range than those who were heavier viewers. Thus, progressively higher levels of viewing above the mean were strongly related to lower achievement, while moderate levels of viewing below the mean were only weakly related to higher achievement." (Reinking & Wu, 1990, p. 35) Lehr also supports the early research results that viewing up to x hrs./day correlates with greater reading achievement. He quotes a 1982 meta-analysis of 23 studies by Williams and colleagues that showed some

viewing was beneficial, up to 10 hours per week correlating positively with reading achievement. Beyond this amount, the correlation is negative; achievement declines sharply with increased hours of viewing. The NAEP, National Assessment of Educational Progress, surveys from 1980-1984 revealed that students who watch up to 2 hours per day have reading proficiency levels above average for their age groups (5hrs/day for 9yr olds), but that 6 or more hours a day is consistently and strongly related to lower proficiency across age groups. (Lehr, 1986)

Contributing factors were explored post 1980 because of the lack of clear evidence of relationships and thus attempts to understand elements were begun. Studies have looked at a variety of related factors to predict reading achievement from television viewing. Some of these studies included – the type of programs watched (fantasy versus violence), the nature of the student's home environment (parental reading and viewing patterns), the relationship between viewing and other outside-of-school activities, recreational reading, etc. A study by Neuman in 1988 concluded that children engage in reading for leisure because they find this activity enjoyable, not because it is a substitute for watching television. (Reinking & Wu, 1990) "I pronounced as early as 1963 that the more we watch television, the more we will read, because in reality TV is the most important promoter of reading....Another German polling institute call INFRATEST has calculated that 37% of all reading is stimulated by television. The statistical correlation as such is indisputable. The more time people spend viewing television, the more they read." (Steinberg, 1983, p. 510-511)

Roberts & Rockman argue that the effect of television on students' academic performance is mediated by teachers' implicit or explicit theories of how television affects their students. In other words, teachers have beliefs about how television affects their students and these beliefs influence their instructional decisions. "Television's popularity and pervasiveness has generated mixed reactions among reading teachers. On one hand they lament television's seductive power to lure children away from the benefits of reading and they sometimes lobby to reduce its influence. On the other hand, recognizing the inevitability of television viewing, reading teachers have sought ways to turn the perceived disadvantage of television

viewing into an advantage." (Reinking & Wu, 1990, p. 30) Researchers in instructional media have also begun to compare cognitive and affective consequences of learning via television or print. "Recent hypotheses and research questions indicate that researchers in the 1980s have begun to recognize the possibility that television may in some instances have a positive impact on reading achievement." (Reinking & Wu, 1990, p. 39) Morgan (1980) found that students who watched more television when they are younger were likely to read more when they are older. This suggests that television viewing may broaden young children's interests that are pursued later through reading. Thus it is clear the complexity of the relationship and many contributing factors are recognized and are being considered in the research efforts today.

The amount of time children watch television is staggering. (Rice & Haight, 1986) "Youngsters receive large amounts of exposure to the mass communication media. Children in the United States spend more time watching television than they do in school, in social interaction with other family members, or in any other waking activity (Singer, 1983). Children begin viewing during the language acquisition period of development. Infants respond to the sights and sounds of television. Children between 1 and 2 years of age begin to react to particular characters and events on television by pointing, labeling, and selectively attending. By 3 years, American children are regular viewers, averaging more than 2 ½ hr. of viewing daily, as reported in a longitudinal study of 320 preschoolers' home viewing. Furthermore, young children's viewing is attentive. In the home, when the T.V is on, children increase the percentage of time looking at the screen from 6% at age 1, to 40% at age 2, 67% at age 3-4, and 70% for 5-6 year olds. It becomes imperative that we begin to examine some of these factors closely and understand how to use this form of communication to an advantage.

Thus far, the historical view of research has been presented with the current focus being factors contributing to literacy. The case has been made that television can have positive effects on reading achievement if bounded by a certain amount of viewing time. Finally, it has been stated that the accessibility to children demands that we act responsibly to influence the development of language and

literacy. Influencing literacy means that we must look for ways books and television can be connected in the minds of the readers. Then we must explore how to manipulate and control the elements of reading that are also present in television viewing. "Children do learn from television, and educators can use its power to improve reading skills and promote leisure reading." (Lehr, 1986, p. 503).

Steinberg demands that we should be looking for ways to use TV to promote reading. Specifically, there has been an attempt in research to identify methods to increase enjoyment and strengthen the quality of reading time. "...there are individuals who are not at all stimulated by TV but there are also those who only read after a TV report has aroused their interest in some topic. On the other hand, a TV production of a novel, which, as experience has shown, stimulates many people to read the book, may prevent others from doing so. The high total figures, however, show the degree of the measurable positive effect." (Steinberg 1983, p. 511).

The methods for connecting books and television are part of a concept called tie-ins; that is, relating in many different ways the viewing and reading of literature and its associated reference materials. Hamilton, Steinberg, Busch and Potter are researchers that have focused on tie-ins and highlight many applications for connecting books and television. Hamilton, 1976, states that when given the opportunity to read television tie-ins related to their favorite television series, his study showed that children will read when their interests are stirred. Television tie-ins, then, can be the bridge to books and reading. A relevant conclusion of his study is that tie-ins were effective in promoting an interest in reading among pupils in a low socioeconomic group and with a low IQ.

Busch proposes a reason for using television tie-ins for at risk students. "Television tie-ins have proven much more popular with low-ability students than with the more intelligent reader. The familiarity of plot structure apparently makes the book seem less threatening....The low-ability student's limited vocabulary is not a major problem in reading tie-in books." (Busch 1978, p. 670) It seems that preschoolers and early readers would benefit from tie-ins for the same reasons: familiarity with the material, concepts and

vocabulary provides a prop for "learning" students. For classroom use, a wonderful suggestion made by Potter in his 1981 article was to have the students watch the programs while reading the accompanying scripts and then teach skill lessons based on the print material. Potter claims that "CBS has its own reading program which provides scripts of special programs to millions of students along with a teacher's guide with derived reading lessons." (Potter, 1981, p. 379) Thus through the example of the networks' attempt to engage children in the art of reading, it is apparent there are many possible ways books and television together can boost literacy. One application that has been the subject of some research is the use of closed-caption television, originally intended for deaf individuals. Children with reading problems, but who have normal hearing, have increased their sight vocabulary and reading fluency after watching closed-caption versions of popular television programs. (Koskinen, Wilson, Gambrell & Jensema, 1987)

Rice conducted several studies searching for elemental factors of literacy attainment inherent within the viewing situation. Her work focuses on language acquisition, specifically vocabulary development, that can be supported by viewing. "While they view, they hear an extensive amount of dialogue. Insofar as children view frequently and attentively, the medium is potentially a major source of verbal information for children at the ages of rapid language acquisition." (Rice & Haight, 1986, p. 282) Other researchers have also looked at vocabulary as being the connective element. Pren (1984) found that children's television programs contain richer vocabulary than children's books. This finding raises questions concerning the degree to which television may contribute to incidental vocabulary learning. Television may also play a key role in helping students learn important vocabulary associated with what Hirsch (1987) has labeled 'cultural literacy.' (Reinking & Wu, 1990, p. 40)

A premise that must be established is that reading comprehension can be enhanced and reading achievement can be greater through the development of a strong verbal and written vocabulary. (Burns, Roe and Ross, 1992) "Because students must call on their existing schemata in order to comprehend, meaning vocabulary development is an important component of comprehension skills (Jones 1982). Therefore, direct instruction in word meanings is a valuable part of reading instruction. Research has

indicated that pre-teaching new vocabulary terms can result in significant gains in comprehension (Roser and Juel, 1982; Carney and others, 1984) and that long-term vocabulary instruction, in which words are taught and reinforced over a period of time, enhances comprehension of materials containing those words (Beck, Perfetti, and McKeown, 1982; McKeown and others, 1983; Robinson and others, 1990)." (Burns, Roe and Ross, 1992, p. 164) In addition, casual learning of vocabulary is important and thus relevant. "Children learn much vocabulary by listening to the conversations of those around them. Therefore, a language-rich environment promotes vocabulary acquisition." (Burns, Roe and Ross, 1992, p. 165)

A few pieces of research found support the premise that vocabulary is worth pursuing as a key variable of television influencing the performance of reading. A study by Mason, 1965, showed that Kindergartners who have had no formal instruction in reading have learned to identify printed words frequently shown and pronounced simultaneously on television. The implications – 1. Teachers' knowledge of television viewing habits may be converted to reading lessons that make use of what children know about televised words. 2. Further research in television word learning could lead to improved reading instruction.

Adams, 1975, reported in surveys of 4th, 5th and 6th grade reading students that low readers believed reading words from TV helped silent reading, that middle ability readers thought spelling was helped and that high reading groups thought that vocabulary was aided by reading words from the TV screen. Most educators would confirm those statements with some anecdote about a small child who learned to read cereal names or other words from the screen. Potter in 1980 states "The TV screens of the world were filled with computerized reading data including abbreviations, symbols, boards, signs, uniforms, all potential reading material. He recommended review of graphic symbols, identifying the formats of score reports, foreign language abbreviation studies, and schoolwide use of TV to promote reading in math and physical education." (Potter, 1981, p. 381)

Some very specific studies conducted looked at exactly how language learning results from viewing and also what characteristics of television programs are desired using existing known models of language

acquisition and vocabulary development. Rice in 1984 describes the language-viewing environment. "A careful description of the verbal language provides a more complete conceptualization of television's messages. When the description of linguistic information is related to other nonlinguistic features and to content, it allows for a realistic account of the full range of information conveyed in television programs. The inclusion of linguistic features in our descriptions of television's messages allows for a greater appreciation of the complexity of the medium's messages and the nature of the psychological processes involved in its interpretation. While the pictorial quality of television may render it easier to process than other media, this is not to say that the medium is only visual nor always easy for young children to understand. On the contrary, these findings reveal that children's television programs can be highly verbal as well as visual. Furthermore, the verbal messages range in complexity from those well suited to children's competencies to those that would pose a challenge. To the extent that higher order symbols, such as verbal language, carry the messages of television, children must call upon more than simple iconic levels of processing, contrary to what current critics claim. The medium may be a string of pictures, but the pictures are accompanied by words that take the viewer beyond the immediate visual information. A satisfactory model of children's mental activity while viewing must take this reality into account." (Rice, 1984, p.461)

How does a child consume these verbal messages? What messages are more easily interpreted? This aspect is perhaps one of the most interesting parts of the research surveyed. "Contemporary models of viewing characterize the child as an active processor of the medium, one who selectively attends, searches for comprehensible content, and retains new information from viewing (see Rice, Huston, & Wright, 1982)". (Rice and Woodsmall, 1988, p. 420) "There is supportive evidence that naturalistic viewing does influence vocabulary development in the positive findings of Rice et al. (in preparation). ... some kinds of word meanings are more readily mapped than others. As predicted, based on developmental sequences, object, action, and attribute words were amenable to quick comprehension. On the other hand, affective-state words were relatively resistant to quick interpretation. The combination of grammatical variability and conceptual abstraction in the case of affective words may have been too challenging for a

fast mapping in the viewing situation. Overall, these young viewers were able to engage in rapid on-line processing of the narration that involved noting the presence of a new word and arriving at an instantaneous attribution of meaning. ... the number of repetitions, coupled with clear, although not exaggerated, depiction of putative meanings." (Rice and Woodsmall, 1988, p. 426)

The hypothesis of lexical acquisition consists of two phases – 1) fast mapping -- when the child first notices a new lexical item and rapidly stores some sort of information about it in memory after a single or very few experiences with it, and 2) "extended" phase which takes place over a much longer period of time -- where the initially fast-mapped representation is gradually refined as the child gleans additional information from subsequent encounters with the word. Children map a "roughed-out" preliminary representation into memory on the basis of very little information about a new word or very few exposures to it. They maintain a large number of these incomplete representations in memory simultaneously and update them as new information about each word is acquired. (Dollaghan, 1985, p. 450) After Dollaghan's study, he concluded that preschoolers do routinely use a specific strategy in their initial encounters with new words, at least in referentially unambiguous situations. This strategy is adaptive in the sense that it enables the child to participate in many communicative exchanges that exceed his/her strictly linguistic capabilities. "...a single incidental exposure to the unfamiliar word and referent enabled a significant percentage of subjects in the present investigation to construct a representation that at least linked the two..." (Dollaghan, 1985, p. 453) "For a significant percentage of children this representation also included some episodic information about the context in which they had first encountered the new word and referent. However, after hearing the new word only two times, nearly half of these subjects had created representations containing enough phonetic information to enable them to recall two of the word's three phonemes in their proper sequence." (Dollaghan 1985) Pinker's model assumes that children rely on situations where a single unfamiliar word is isolated or surrounded by known linguistic contexts, and the situation provides a clear meaning for the word. In some unspecified manner the child infers the matchup between word and meaning.

Also, the findings suggest there are possible positive influences of accumulated linguistic knowledge and/or prior viewing experience. "...in order to be learned the targeted word is not restricted to a single "new" item, surrounded by the familiar; the new word need not be introduced in exaggerated referent-matching situations; the new word is not limited to novel objects or members of a limited semantic class (such as color terms); nor is it necessary to provide the same linguistic context for each presentation of the new word. In short, a minimum of overt salience-enhancing support is adequate for children to parse a new word and arrive at an initial at least partial comprehension of meaning. The simplifying assumptions of contemporary explanatory models are not requirements for young word learners." (Rice, 1988, p. 426)

Prior experience, familiarity, can support the acquisition of language while viewing. A model of child-as-active viewer, where television is intermittently comprehensible, allows for a facilitative effect once a youngster has acquired a basic competence with which to interpret the dialogue. A child's preference to view comprehensible content would allow for extension of linguistic repertoires within established domains. In this model, the young viewer is a selective seeker and processor of information. In the 'television as intermittently comprehensible' model, children view selectively, attending to those portions of programs that are comprehensible to them. Within this account, children monitor the sound track for cues associated with comprehensible content. (Rice & Lemish, 1986)

The context for learning vocabulary that is emphasized in the language-acquisition literature is that of a dyadic interchange between an adult and a child. "In home settings, parents intuitively respond to the medium as a language-teaching device for their toddlers who view. Parents use television, particularly 'Sesame Street,' as a talking picture book (Lemish & Rice 1986). Overall, when embedded in supportive parental interactions, educational television viewing appears to be a situation well suited to language acquisition." (Rice, 1988, p. 421) Her findings are consistent with the everyday observation that preschoolers can "pick up" new words with a minimum of exposure and a minimum of tutorial assistance. The results support the prediction that young viewers can learn new words when watching television, given an appropriate script." (Rice, 1988, p. 426-427)

BEST COPY AVAILABLE

"Dyadic interactions between adults and children have been widely recognized as a source of linguistic input that is well suited to children's language acquisition. Adults tend to simplify their talk to children in a manner that has come to be known as 'motherese.'" (Rice & Haight, 1986, p. 282) The features of motherese are: emphasis on here and now, with a restricted vocabulary and much paraphrasing; simple, well-formed sentences; frequent repetitions; and a slow rate of speech with long pauses between utterances and after content words. The simplified register is probably facilitative for language acquisition.

Rice & Haight studied and compared the dialogue in two preschoolers' educational show – Sesame Street and Mr. Rogers' Neighborhood. They found the dialogue to be well suited to the young viewer, with adjustments similar to those evident in adults' speech to young children. The mean length of utterance is reduced, the ratio of different words to total words is comparable to that of young children, sentence structure is simplified, and there is a heavy emphasis on the here and now (a majority of present tense verbs, a high proportion of utterances about immediately visible topics or referents, and a preponderance of event casts as narrative structure). The questions used are of the two types previously reported to be associated with children's acquisition of auxiliaries: those of reversals (yes/no questions) and Wh questions. Furthermore, there are indications of explicit attempts to ensure children's comprehension of linguistic forms. There are frequent instances of linguistic emphasis where targeted linguistic forms are stressed, repeated in new linguistic frames, or otherwise emphasized in the dialogue. Key terms appear repeatedly. The proper names of characters are used consistently near the beginning of conversational interactions. In addition, both programs avoid complex word forms, such as ones with nonliteral meanings or novel forms. (Rice & Haight, 1986, p. 286) "Overall, the dialogue of these two children's educational television programs provides a model of language form, structure, and use that is well suited to the young viewer's linguistic competencies." "In short, educational programs create an attentive situation in which they present comprehensible information to young viewers. In this regard, educational programs share with live interactions features regarded as facilitative of language acquisition." (Rice & Haight, 1986, p. 286)

The model of learning to read as an interactive process of engaging the reader, author and text is a social one. Emerging literacy promotes a language-rich environment, with caretaker and child engaged in routine, mutually pleasant interactive story reading sessions. It is this model that Rice used to evaluate child and parent relationships during television viewing. First, it is a social experience. "Even young children view selectively and attentively, as they participate in the ongoing stream of social interactions of the household. Furthermore, they frequently talk about their viewing with available responsive adults. Social interactions with co-viewing adults support children's earliest understandings of the medium and, in turn, introduce new concepts to children." (Lemish & Rice, 1986, p. 254) In a study by Lemish and Rice of children viewing television observed verbalizations were recorded and examined. The four main categories of children's verbalizations during television viewing were found to have strong parallels with interactions reported for parent book-reading. 1. Designating objects, characters, animals and other things on the screen (Child: Pointing, pointing and speaking unintelligibly, verbal labeling with or without pointing, pointing with a question, with an intent to name; Parent: attention calling, labeling, correcting, labeling questions) 2. Questioning about television content (Child: Wh questions, form questions, relating to self questions, operative questions; an attempt to understand what they are viewing and also serve to initiate contact with an adult) 3. Repetition of television dialogue (Child: demonstrates the intent to self-inform) or parental comments about television content (Parent: repetition, acknowledgment, directing behavior, answering questions) and 4. Description of television content (with interpretation and expansions). There are strong parallels between these categories and the categories of interaction reported for book-reading. "Television viewing shares some of the features of the book reading context, in so far as programs appear at the same times, follow the same general routines, recur, and provide some predictable modeled utterances. Yet there are some important differences between the viewing situation and book-reading, even though the interactive outcomes appear to be very similar. Therefore, consideration of those differences can suggest additional contextual variables that contribute to language-facilitative caretaker—child interaction.

"A major difference is that television viewing does not demonstrate the ritualistic interactive characteristics evident in book-reading. This is a consequence of a comparative lack of control of the medium. Closely related to the lack of control is the continuous nature of television's contribution to the situation. The program continues even when the viewer is inattentive. Consequently, there is intermittent engagement of viewers and frequent need to re-establish joint attention. Another striking feature of television is its attractiveness to children and adults. It is perceived as a medium of entertainment, to be used for enjoyment and relaxation. . . . it can be attended to just for fun. Perhaps because of its inherent appeal, there seems to be a strong desire on the part of viewers to comprehend what is presented. Finally, the combination of appeal and lack of control means that children can view without the active participation of adults. ..." (Lemish & Rice, 1986, p. 268-269) "The viewing context suggests that the following variables be considered as contributors to the quality of verbal interactions between adults and children: 1. The amount of adult control involved or the extent to which the child can participate independently; 2. The appeal of the content – maximum appeal for adults and children depends on a judicious mix of predictable; 3. The continuity of the activity vs. discrete, clearly defined interactive routines; 4. The potential benefit of the child's activity for the adult caretaker or the response cost for the adult." (Lemish & Rice, 1986, p. 269) In conclusion, "The viewing context demonstrates that joint attention, joint reference, extensive labeling and joint consideration of a common topic can be achieved in an ongoing, loosely structured activity when the content is immediately available, appealing to both adult and child, and there are reasons for the adult to sustain the child's participation in the activity. It suggests that labeling is a powerful phenomenon that does not depend on highly specialized circumstances. It also suggests a greater role for content in determining interactive patterns than previously acknowledged. Above all, the viewing context is complex, requiring the child to process many levels of information simultaneously, and to coordinate his own utterances with multiple simultaneous interactions." (Lemish & Rice, 1986, p. 269)

Mothers tend to read picture books with their children in an interactive dialogue-like structure that is a format well suited to teaching children labels for things and people. Routinization of the book-reading

situation and predictability of adult utterances are the two features that contribute to language acquisition. "Television viewing is an activity that is routinized, recurrent and provides predictable modeled utterances. It meets these criteria in two ways. First, the medium itself follows routine formats that recur, and it sometimes provides predictable, simplified redundant dialogue. That is especially evident in the case of educational programs for children." (Rice & Lemish, 1986, p. 252-253) Young children watch reruns of their favorite programs with the same enthusiasm they have for rereadings of their favorite books. Sesame Street deliberately airs the same episodes a number of times. "Secondly, when young children view in their own homes, they tend to watch familiar programs at predictable times in the presence of an adult caretaker." (Rice & Lemish, 1986, p. 253) Clark & Clark assert that children seem not to acquire language from television, based upon the assumption that the dialogue of television is unsuitable for young children and that the passive nature of the viewing experience does not provide sufficient semantic contingency of input. Rice argues that the dismissal is premature, in part because the dialogue of child-directed programs is adjusted for child viewers and because there is evidence that children learn word meanings when viewing (Ball & Bogatz 1970, 1972) and draw upon television as a source of verbal routines for their own play interactions. (Watson-Gregeo & Boggs 1977). "We present evidence that their viewing is not a matter of passive, solitary consumption of the medium, but is instead embedded in a rich verbal interaction that has strong parallels with mother – child book-reading routines." (Rice & Lemish, 1986, p. 253)

Thus, Rice's work has stimulated much thought regarding how language learning results from viewing and what characteristics of programs are desired. She and her colleagues have shown that naturalistic viewing does influence vocabulary development. There are specific types of words which are more readily mapped and hence learned. Those words are introduced with a clear depiction of meaning, repetitively used in the programs and thus, over time, the child refines their meaning as the accumulation of experience and exposure occurs. The environment is one similar to language acquisition at home; features of programs emulate "motherese" , the dialogue is well suited to young children's linguistic competencies and programs model story telling sessions – parent-child book reading. Within this model of story telling, shows exhibit similar features such as the routinization of the viewing experience and the

verbalizations of both parent and child. Thus, the entire experience of viewing can be facilitative of the language acquisition process, provided program creators attend to desired features and parents maintain control over the utilization of the medium, participating for the purpose of supporting the development of language.

The study of how television viewing and reading achievement are related is truly complex. Historically, the research has come from looking at global impacts to analyzing the effects of the medium's attributes on optimum verbal learning. It is a field where a great deal of understanding is yet to come. The relevant points to highlight:

- Television viewing can have positive effects on verbal learning and reading
- There are many ways to relate books and television for enjoyment and the pursuit of greater achievement in reading
- Television is an attractive and powerful medium within our culture
- Vocabulary is a basic element in reading comprehension
- Television can positively influence vocabulary development and language acquisition
- Television is a major source of verbal information
- Television, in some cases, contains richer vocabulary than books
- Word learning occurs while viewing
- Certain characteristics of television programs are closely matched to the styles and methods of naturalistic language acquisition
- Preschoolers' educational programming does exhibit traits of language acquisition

Thus, the review of related literature has been fruitful. It has provided the necessary background to begin an investigation of the current preschoolers' educational shows for evidence of nurturing language, reading and verbal skills.

"What remains to be determined is how children attend to the stream of words presented, identify a novel item, enter it provisionally into their available lexicons, assign it a tentative meaning, and store it for

immediate or later use, all on the basis of a few fleeting presentations. As we discover the features that contribute to children's language learning, they can then be incorporated into broadcast programming or special tutorial videocassettes, a possibility to gladden the heart of the many parents who wish the appeal of the medium matched its value for their children's development." (Rice and Woodsmall, 1988, p. 427) These words by Rice and Woodsmall recommend very specific action to be taken in future research and of course their perspective is the extension of the vocabulary development work done. There is much to be explored by researchers about the complex nature of the overall relationship between reading and television viewing. Reinking & Wu, 1990, quote Hornik as saying in 1981 that "researchers have not even approached the frontier of what is investigable about [television's] impact on schooling". It is possible that this broad statement made in 1981, quoted as applicable in 1990 is still true today – 1996.

References

Adams, Anne H. and Harrison, Cathy B. "Using Television to Teach Specific Reading Skills." The Reading Teacher, vol. 29, no. 1 (October 1975), 45-51.

Burns, Roe and Ross. Teaching Reading in Today's Elementary Schools. Houghton Mifflin Co., Boston, MA, 1992, pp.164-199.

Bush, Jackie S. "Television's Effects on Reading: A Case Study." Phi Delta Kappan, vol. 59, no. 10 (June 1978), 668-671.

Dollaghan, Chris. "Child Meets Word: 'Fast Mapping' in Preschool Children." Journal of Speech and Hearing Research, vol. 28, no. 3 (September 1985), 449-454.

Hamilton, Harlan. "TV Tie-Ins as a Bridge to Books." Language Arts, vol. 53, no. 2 (February 1976), 129-131.

Lehr, Fran. "ERIC/RCS Report: Television Viewing and Reading." Language Arts, vol. 63, no. 5 (September 1986), 502-504.

Lemish, Dafna and Rice, Mabel L. "Television as a Talking Picture Book: A Prop for Language Acquisition." Journal of Child Language, vol. 13, no. 2 (June 1986), 251-274.

Mason, George E. "Children Learn Words from Commercial TV." The Elementary School Journal, vol. 65, no. 6 (March 1965), 318-320.

Pinker, Steven. The Language Instinct. W. Morrow and Co., New York, 1994.

Potter, Rosemary Lee. "The Link Between Reading Instruction and Commercial Television: Is This A Bandwagon?" Journal of Reading, vol. 24, no. 5 (February 1981), 377-382.

Reinking, David and Wu, Jen-Huey. "Reexamining the Research on Television and Reading." Reading Research and Instruction, vol. 29, no. 2 (Winter 1990), 30-43.

Rice, Mabel L. "The Words of Children's Television." Journal of Broadcasting, vol. 28, no. 4 (Fall 1984), 445-461.

Rice, Mabel L. and Haight, Patti L. "'Motherese' of Mr. Rogers: A Description of the Dialogue of Educational Television Programs." Journal of Speech and Hearing Disorders, vol. 51, no. 3 (August 1986), 282-287.

Rice, Mabel L. and Woodsmall, Linda. "Lessons From Television: Children's Word Learning When Viewing." Child Development, vol. 59, no. 2 (April 1988), 420-429.

Steinberg, Heinz. "Reading and TV Viewing - Complementary Activities." Journal of Reading, vol. 26, no. 6 (March 1983), 510-514.

Zuckerman, Diana, D. Singer and J. Singer. "Television Viewing, Children's Reading and Related Classroom Behavior." Journal of Communication, vol. 30, no. 1 (Winter 1980), 166-174.

Appendices

Appendix A: Episode Recording Dates

Dates	PBS Sesame Street	PBS Barney	PBS Arthur	NICK Busy Town	NICK Rupert	NICK Allegra's Window	NICK Gullah, Gullah Island
12/30/96	X	X	X	X	X	X	X
12/31/96	X	X	X	X	X	X	X
1/1/97	X	X	X	X	X	X	X
1/2/97	X	X	X	X	X	X	X
1/3/97	X	X	X	X	X	X	X
1/13/97	X	X	X	X	X	X	X
1/15/97	X	X	X	X	X	X	X
1/16/97	X	X	X	X	X	X	X
1/21/97	X	X	X	X	X	X	
1/24/97				X	X	X	
1/27/97	X	X	X				
1/31/97							X
2/5/97							X

Appendix B: Quantitative Vocabulary Evidence

Episode	*Sesame Street	*Sesame Street	Barney	Arthur	Total PBS
1	47	47	34	23	151
2	119	119	67	68	373
3	109	109	85	67	370
4	113	113	92	59	377
5	75	75	50	51	251
6	94	94	84	62	334
7	101	101	97	56	355
8	102	102	124	83	411
9	105	105	83	72	365
10	110	110	74	62	356
Total	975	975	790	603	3343

*Show one hour in length; evidence divided in half for equivalent view of other half-hour shows

Episode	Busy Town	Rupert	Allegra's Window	Gullah, Gullah Island	Total NICK
1	51	60	30	46	187
2	125	87	43	96	351
3	123	60	57	71	311
4	137	53	31	54	275
5	135	49	67	70	321
6	131	84	53	48	316
7	126	74	49	43	292
8	126	66	54	37	283
9	105	33	27	92	257
10	95	51	38	66	250
Total	1154	617	449	623	2843

EVIDENCE OF VOCABULARY DEVELOPMENT IN TELEVISION PROGRAMS FOR PRESCHOOLERS

BY

PATTI J. KLEIN

Presented In Partial Fulfillment of the
Requirements for the Degree of Masters of Arts

Kean College of New Jersey

April 1997

TABLE OF CONTENTS

	Page
I. Abstract	ii
II. Acknowledgment	iii
III. Dedication	iv
IV. List of Tables	v
IV. Evidence of Vocabulary Development in Television Programs for Preschoolers	
Introduction	1
Hypothesis	3
Procedures	5
Results	8
Conclusions	14
V. Television Effects on Language Learning: Review of Related Literature	17
VI. References	35
VII. Appendices	37
Appendix A: Episode Recording Dates	38
Appendix B: Quantitative Vocabulary Evidence	39

Abstract

This study explored the vocabulary development available in a variety of current preschoolers' television shows. A quantitative analysis of seven shows from two networks was undertaken over a total viewing time of 40 hours; a qualitative analysis of techniques used to present vocabulary was also documented for these shows. It was concluded that in a comparison of PBS and Nickelodeon, there was no significant difference in the amount of vocabulary presented on the two networks. The qualitative analysis indicated that although a variety of techniques were used, most shows employed the same set of techniques repetitively.

Acknowledgment

I wish to express my appreciation to Dr. Albert J. Mazurkiewicz (Chairperson of the Department of Communication Sciences at Kean College of New Jersey) for his valuable guidance that made the completion of this study possible.

Dedication

I wish to acknowledge the encouragement of Warren Klein, my husband. Warren supported my efforts with his time, interest and love to further my personal endeavor.

List of Tables

	Page
Table I: Means, Standard Deviations and t of the PBS and Nickelodeon Networks	8
Table II: Means, Standard Deviations and t of the shows Arthur and Busy Town	9
Table III: Means, Standard Deviations and t of the PBS show Sesame Street and Nickelodeon's Busy Town	9
Table IV: Means, Standard Deviations and t of PBS' Barney and Nickelodeon's Busy Town	10

My daughter commented to me one day while watching The Land Before Time III, that she would like to go into the television so she could be with her friends, specifically Sera. She wanted to know how she could get there. When I told her that someone drew Sera and friends into the movie, she wanted to know if that person could draw her in there with them. I said that it was possible; she then wanted to know how it could be done. I responded with the favorite of parents – "Magic." She said OK – this was something she understood – magic. Later that summer she and her twin sister, met a woman named Sarah on a bus going into Disney World from our hotel. They, just 4 years old, proceeded to enumerate the several Sarah's they knew – three, one of which was Sera from their favorite movie. To a child, the world of places and people that television brings into their lives is real. It is how they view the world and learn about it, just as they do from all their experiences.

Given that children in our society spend a significant amount of time watching television programs, and that preschoolers are at a critical point in their development of verbal language, it is important to evaluate the quality of programming available today relative to the contribution these programs make in building vocabulary. It is important that specific factors about television viewing and programs be investigated to influence the fostering of a literate society. Understanding how television and reading achievement are related is a factor; another factor, which is the basis for this thesis, is to take known methods for improving literacy and evaluate the existing television media to determine the extent this vehicle supports them. This will enable parents, educators and program creators to make educated decisions about how our children spend their time.

"Television has had a bigger impact than any other leisure-time pursuit on the amount of reading a child does." (Busch, 1978) The relationship between television and reading achievement has been explored and shown that when viewing time is limited to three hours per day, there is a positive relationship between viewing and reading achievement. (Reinking and Wu, 1990) Thus, given that television viewing can be beneficial for developing literacy, we must begin to understand the qualities in television programs that effects this positive relationship in reading achievement.

In the search for a powerful factor that influences this relationship, literature indicates that vocabulary development is fostered through television viewing. (Busch, 1978) Schramm concluded that TV helped the low achievers develop vocabulary skills that the non-television children did not have. Schramm found that TV was a major factor in the vocabulary enrichment of preschoolers and first-graders. This enrichment aided the development of reading readiness skills. "Because an increase in exposure to new words aids in vocabulary expansion, a tool in the reading process, television's effect on reading for the preschooler and first-grade reader is of major proportion, according to the preschool teachers [surveyed], regardless of program content." (Busch, 1978, p. 668)

There have been many studies conducted by Rice and colleagues (Rice, et al. 1984 - 1988) that have explored the use of this powerful tool for language acquisition in children's television programs. They have looked at the type of language structure and content found in a few of the favorite shows and compared them to the qualities known in "motherese." "Motherese" is a proven style of communicating which supports language acquisition in young children. Their conclusions indicate that the research "suggests that some television programs designed for young children do provide dialogue well-suited to children's linguistic competencies. The linguistic features of educational programs are strikingly similar to the adjustments mothers make in their live interactions with young children." (Rice, 1984, p. 457) In addition, Rice found that children's television programs are highly verbal, as well as visual, and that this would pose a challenge as the verbal messages range in complexity from those well suited to children's competencies to those with higher order processing demands. Finally, by evaluating the types of word meanings depicted in shows, Rice and Woodsmall, in 1988, found that young viewers were able to engage in rapid on-line processing of the narration that involved noting the presence of a new word and arriving at an instantaneous attribution of meaning. She concludes with a statement that supports young children's learning of new words, however, with the caveat being - "given an appropriate script." (Rice and Woodsmall, 1988, p. 427)

A conclusion may be drawn from this research that since television viewing, within the 3 hours per day limit, aids in the development of vocabulary for preschoolers, overall reading achievement will be greater provided the features of the video presentation are meaningful. It appears desirable, therefore, that researchers explore and quantify the evidence of vocabulary development within the programs available to this audience today, with the intent to contribute to an overall understanding of the value that television may have on reading achievement through this powerful tool.

Hypothesis

To provide additional information on this topic, the following study was undertaken. It was hypothesized that there would be no significant difference in the quantity of vocabulary developed or the techniques used in the presentation of vocabulary in a variety of preschoolers' television shows on two different networks.

Assumptions, Limitations and Delimitations

1. The researcher can accurately identify evidence of vocabulary development
2. No consideration in this study for qualification of "new" vocabulary to the preschooler
3. The quantity of "vocabulary experiences" to facilitate individuals' acquisition of language is not considered
4. Selection of preschoolers shows were made during morning hours; this is a deliberate attempt to evaluate targeted programs, not television shows in general.
5. Sesame Street's vocabulary development totals, when adjusted for ½ hour show length, accurately reflects an even distribution.

Definitions

Accounts: narratives generated by either the teller or another party to provide new information or new interpretations of information that may already be known to both the teller and the listener.

Emphasis: a means of giving selected prominence to a linguistic constituent for some sort of communicative purpose.

Event cast: a running narrative on events currently in the attention of the teller and listener. The narrative may be simultaneous with the events or precede them.

Fast Mapping: A hypothesized process enabling children to rapidly create lexical representations for the unfamiliar words they encounter. It consists of a quick, initial partial understanding of a word's meaning, involving a restructuring of the lexicon and restructuring of the underlying conceptual domain, that can be accomplished on the basis of a single exposure. (Carey 1978)

Focusing: A means of giving selected prominence to a linguistic constituent for some sort of communicative purpose. Examples are stress, repetition and recasting. (Rice 1984)

Immediacy: comments according to the presence or absence of referents (referent immediately present on screen, removed from sight, or nonreferential comments).

Meaning vocabulary: words for which meanings are understood; it is essentially the set of labels for the clusters of concepts that people have learned through experience.

Recounts: retellings in which information is known to both the teller and the listener.

Schemata: the clusters of concepts of knowledge structures.

Self-repetition (recasts): repetition of targeted words in similar but not identical grammatical contexts.

Stories: include an animate being who moves through a series of events with goal-directed behavior.

Tie-ins: The methods of relating books to television and movies. There are several –

- Books on which television shows are based
- Books based on television shows using similar story, characters and/or subject
- Materials such as posters, biographies and references to related books
- Television interviews with children readers, heroes, and critics
- Script reading and analysis

Procedures

The research was conducted by observing preschoolers' shows on two different channels – PBS and Nickelodeon – for a total of twenty hours each channel, which was equivalent to two weeks of shows, Monday through Friday. These networks have a strong following with this audience; the shows selected are among the most popular with this age group and demonstrate educational intentions. The times and days were selected since the patterns of most households where preschoolers have television available would indicate that activities occur after this time. It is the same period of time that the networks have scheduled shows targeted toward this audience. This provided an overall total of 40 hours of viewing time, with a comparison possible of two different children's networks.

The shows monitored were:

PBS: Sesame Street, Barney and Arthur; Times: 7-8, 8-8:30, 8:30-9 a.m., respectively; Dates: 12/30/96 through 1/27/97.

Nickelodeon: Richard Scarry's Busy Town, Rupert, Allegra's Window and Gullah Gullah Island; Times: 9:30-10, 10-10:30, 11-11:30, 11:30-12 a.m., respectively; Dates: 12/30/96 through 2/5/97.

Note: Exact dates for each show are found in Appendix A. An attempt was made to record all episodes on the exact same dates; however, due to repetition of episodes within the two week time period, it was

desirable to record additional episodes so that each show would have a total of ten unique episodes for analysis.

Sesame Street was selected to provide a well researched comparison of a popular preschool program that emphasizes cognitive skills, a baseline for comparison of the other programs selected. (Rice & Haight, 1986) An obvious omission is the show Mr. Rogers' Neighborhood. This show has been studied for quite a long period of time and has been held as a model for affective content. Its focus is young children's social and emotional development. "Overall, the dialogue of these two children's educational television programs provides a model of language form, structure, and use that is well suited to the young viewer's linguistic competencies." (Rice & Haight, 1986, p.286) The program Sesame Street was selected for this study over Mr. Rogers' Neighborhood, both highly regarded as contributing to language acquisition, because of the focus on cognitive skills rather than emotional development.

The shows were videotaped and viewed for analysis. Examples of the types of words (object, action, attribute) were recorded, using peg counts for number of occurrences. A model was developed to evaluate the techniques employed for vocabulary development. Notes were taken with the intent to document the specific words and situations. The format for the model is shown below. It identifies the various methods used in television shows to teach the meaning of words, enhancing comprehension of the program and reinforcing the vocabulary learned.

The basis for this model came from several studies: Rice 1984, Rice and Haight 1986, Rice and Woodsmall 1988, Dollaghan 1985, and Rice 1988. These studies specifically targeted the attainment of verbal language from television viewing. Some studies identified characteristics of mothers' speech to young children that may be present in programs; others presented a structure for verbal communication with elements that were appropriate to the medium; some investigated the adjustments made to presentation packaging to enhance comprehension. The model developed and used here is a composite of the many traits and characteristics known about language acquisition and television viewing from these studies and focused on the development of preschoolers' comprehension vocabulary. The characteristics

of the learning environment; i.e., style of presentation, are also included in the model to the extent it is obvious that these are tools that facilitate the development of vocabulary.

Vocabulary Development - Quantitative Analysis

Word Types	*Peg Count*	*Documentation*
Object		
Action		
Attribute		

Communication Techniques - Qualitative Analysis

Meaning Content	*Notes - Documentation*
Slow Rate of Talking	
Immediacy of Referent	
Emphasis	
Literal, Novel Words	
Explicit Instructions	
Simplicity of Context	
Visual Production Techniques	
Discourse	*Notes - Documentation*
Recounts	
Accounts	
Event Casts	
Stories	
Linguistic	*Notes - Documentation*
Referent Information	

Phonetic Characteristics	
Syntactic Frame	
Situation Encountered	
Relationship to Words Acquired	

Results

The videotapes of each episode were collected and then analyzed from two perspectives: quantitative evidence of specific vocabulary development and qualitative documentation of the styles used by each show to engage the viewer. Appendix B shows a summary of the vocabulary development found. An adjustment was made for Sesame Street by dividing the amount of words introduced into two parts as this show was twice the length of the others. In the following order, the shows are ranked from the greatest amount of vocabulary presented to the least: Busy Town, Sesame Street, Barney, Gullah Gullah Island, Rupert, Allegra's Window and Arthur.

A comparison of the two networks PBS and Nickelodeon shows there was a difference

Table I

Means, Standard Deviations and t of the PBS and Nickelodeon Networks

Sample	M	SD	t
PBS	334.3	76.6	1.77
NICKELODEON	284.3	46.0	

between the means of the samples' quantity of vocabulary development and this difference was statistically not significant. The probability was 9% that this could have happened by chance. The overall hypothesis is supported that there is no statistical difference between the networks in the quantity of vocabulary developed for a variety of preschoolers' educational shows.

Looking at a comparison of specific shows on two networks -- Arthur and Busy Town, there was a difference

Table II

Means, Standard Deviations and t of the shows Arthur and Busy Town

Sample	M	SD	t
PBS - Arthur	59.3	15.7	-5.82
NICKELODEON - Busy Town	115.4	26.1	

between the means of the samples' quantity of vocabulary development and this difference was statistically significant. The probability that this could have happened by chance was 0%. Thus, looking at the two extreme representative shows of the greatest and least amount of vocabulary presented yields results that are not surprising.

Comparing the shows with the greatest vocabulary development across the two networks PBS and Nickelodeon yields a difference

Table III

Means, Standard Deviations and t of the PBS show Sesame Street and Nickelodeon's Busy Town

Sample	M	SD	t
PBS - Sesame Street	97.5	21.5	-1.67
NICKELODEON - Busy Town	115.4	26.1	

between the means of the samples' quantity of vocabulary development and this difference was statistically not significant. The probability that this could have happened by chance was 11%. Again, results that are supportive of the hypothesis and as expected when comparing the best of each network.

To look at exactly how close the show with the greatest vocabulary development compares to the next best show on the competing network, a difference is apparent

Table IV

Means, Standard Deviations and t of PBS' Barney and Nickelodeon's Busy Town

Sample	M	SD	t
PBS - Barney	79	25.0	-3.18
NICKELODEON - Busy Town	115.4	26.1	

between the means of the samples' quantity of vocabulary development and this difference was statistically significant. The probability of this occurring by chance is 1%.

Thus, quantitative analysis of vocabulary development available within these shows indicates that the two networks can compete with each very closely, with no significant difference overall; that certain shows are significantly different with respect to the amount of vocabulary available to the audience; and that each network's top show for vocabulary presentation does not differ significantly when compared to each other. Note: The amount of time by network devoted to each episode differed for the two networks. Nickelodeon had more lead-ins and trailers in each show compared with PBS. Future studies may want to factor in the exact program length into the significant hypothesis.

During the observation of each episode, notes were taken using the model designed for documenting communication techniques employed. The highlights and some of the most interesting approaches are noted below for each show.

Sesame Street:

Sesame Street is filled with incredibly diverse vocabulary with educational techniques just as diverse for communicating meaning, reinforcing and holding the attention of its viewers. It appears that this shows is

structured such that a child can tune in and out as they go about their activities in the home and still continue to grasp concepts and learn words. At times a very fast presentation of a lot of information. The speed of presentation of the vocabulary appears to increase as the show progresses. A simple, brief theme runs through the entire show but only as excerpts placed throughout. In between, there is a great deal of sometimes, disconnected vocabulary with transitions to take a viewer on a path of stream of consciousness learning. Concepts are introduced from the perspective of the viewer, not necessarily from the perspective of the actors/characters involved in the scene. There is effort to speak directly to the audience and elicit a response from the viewer. Recounts, accounts, event casts and stories are all methods of discourse incorporated in this show. Immediate referents are usually present with a great deal of emphasis (repetitions) in many forms, such as people relating information, then characters, then repetition in song, etc. There is even repetition of vocabulary by a speaker just for the sake of repetition. Vocabulary also focuses on abstract concepts using synonyms to communicate meaning. For examples, superlatives and size/positional attributes of the following words – small, little, tiny, itsy-bitsy and big, enormous, humongous, tremendous, stupendous – were used in one episode to communicate an abstract meaning of size. There was very clear, show articulation of the words use in the basic theme; others were presented at a rapid pace. An interesting technique used was the physical acting out of words. Sesame Street was the only show that was noted as using visual production techniques (such as zooming in on an immediate referent to communicate meaning.

Barney:

Characters are live actors, excluding full-sized puppets Barney, BJ and BabyBop. Friends are a very important element of the interaction and learning. There is one central theme to each episode with affective vocabulary, emotive discussions and physical expression of friendship through touching and hugging, evident throughout. Event casts and stories acted out by the children provide a strong framework for organizing teaching of vocabulary within the topic. A great deal of definition provided directly; sometimes even the direct spelling of the vocabulary. Children acting upon the learning – relating the learning to their friends. There is a somewhat slow pace with not much repetition. Songs are

used to portray meaning and modeling of concepts. For example, safety rules are sung, then acted out, discussed and read from an easel to teach the concept. Also, the songs are used to provide repetition. A great deal of effort is devoted to making all learning concrete, one technique being the simplicity of context.

Arthur:

Arthur's cartoon characters are truly "real" people by the depth of character development maintained throughout the shows. There are always central themes for each vignette, consistently surrounding the overall concept of believing in yourself, getting along with others and learning to work and play. The overriding value of developing self-esteem is clear. The level of these shows exhibits a bit older perspective than say Barney and Sesame Street. The discourse is remarkably varied, including recounts, accounts, event casts and stories sometimes within a single vignette. A unique feature of the Arthur shows is that during the break between the two vignettes of each show, children are discussing the literary elements within the vignettes. This is a very nice use of modeling for children writing letters, stories and drawing pictures to relate and analyze the topic, characters' reactions to situations, problem solving. Looking at meaning/content, Arthur appears to be relying on the viewer to connect the theme as identified at the start of the vignette, to the behaviors of the characters and thus learn the vocabulary presented. Hence, one of the reasons why this show is no doubt for an older audience. Specifically, the program uses novel words; sometimes the referents were a bit removed in time from the vocabulary introduced; and synonyms were used for emphasis and repetition.

Busy Town:

This is an animated character show with a story discourse format. There is focused learning within short vignettes, which are thematic. The mode of communicating meaning is predominantly the use of immediate referents. Repetition among the episodes of the same words is noticeable; there is some repetition within an episode among the vignettes. Characters, peculiar traits of those characters and their living environment are part of each episode and hence repetition exists within this structure. For

example. Mr. Fumble is always losing his hat. Use of colloquialisms occurs, but infrequently. The overwhelming experience the viewer derives from this show is the amount of focused vocabulary presented and developed with obvious immediate referents.

Rupert:

The characters in Rupert are animated, with more character development than those in Busy Town, but less than those in Arthur. The overall thematic content is oriented toward adventure. Rupert visits foreign lands and situations that may not be familiar to most children and hence may provide background knowledge to a future reader. There is more sophisticated language and varied use of language than all of the other shows analyzed. Use of figurative language, colloquialisms such as "run out of steam", "weight of the world lifted off his shoulders", similes, etc. are such examples. An audience older – closer in age to Arthur, rather than Barney is appropriate. Meaning and content are derived from the use of contextual clues, with immediate referents available as well. Explicit definition, thematic development for emphasis and repetition of words and their synonyms, and very clear enunciation of words are all techniques employed by this entertaining show.

Allegra's Window:

All primary characters are puppets, representing multicultural dimensions. The discourse format is story. There was an obvious use of nonsense words; quite often there was no definition, referent or contextual ways to derive meaning. Emphasis occurred by different characters repeating words; sometimes repeating words in song.

Gullah, Gullah Island:

Characters are live actors, with one full-sized puppet – the PollyWog; setting is a Caribbean Island, utilizing at times the environmental/cultural uniqueness to teach related vocabulary. Song is an important part of the lives of the characters. A central theme running throughout all shows is one of problem

solving, taking responsibility for actions and working together as a family and community. Episodes rely on event casts as a means of discourse, with accounts and recounts being told like parents would relate stories of their own past lives and experiences to their children. Characteristic use of slow speech. Some speaking to the audience directly; audience is addressed at other times through songs and finger plays. Episodes visits places like a field trip to support learning. To communicate meaning, Gullah, Gullah Island uses immediate referents – the field trips are a strong technique for presenting a wide variety of vocabulary, some emphasis in repetition that would naturally occur in language, similes, and explicit instructions/definition from the format of family discussions about a topic during problem solving. There is one theme per episode.

Overall, the qualitative analysis showed that most shows relied on fairly simple methods for reinforcing vocabulary – predominantly immediate referents and thematic tie-ins. Only Sesame Street employed a wide variety of educational methods and hence explains why it has been such a popular favorite among parents and educators. A recommendation for significant research is work that focuses on the qualitative methods analyzed, identifying by age/ability the effectiveness of the range of techniques used by each network/show.

Conclusions

It is obvious from the review of related literature and the study undertaken that being a critical, informed parent, educator and viewer is necessary to being a responsible consumer of this visual medium. What has been learned from this research?

- The total amount of vocabulary presented for consumption in each episode, show and network was astounding. The availability of vocabulary for language acquisition is clear.
- Statistically, the top shows of two major networks (for preschoolers' educational programs) were not significantly different in the amount of vocabulary presented and even more

importantly, across all shows analyzed, there was no statistical difference between networks. Thus, the networks and producers of the top preschoolers' educational shows may have realized the maximum potential quantity of vocabulary development possible within the time allotted.

- Although all shows demonstrated an objective of teaching vocabulary, there was quite a range of quantity presented in the episodes; even among shows that used primarily the same few techniques. Consistency among and within the production of educational shows may be a suggested area of opportunity for improvement.
- There are a wide variety of techniques available to developers of educational programs and a very few techniques are used almost exclusively by the majority of shows. This subjective analysis may indicate a need for greater creativity of educational presentation techniques for vocabulary development.
- The ability to learn from each of the techniques used by the networks and programs was not part of the study. Research should continue to evaluate how effective certain techniques are for acquisition of language and the improvement of literacy of our society.

From the literature research and independent analysis conducted as part of this study it is concluded that television viewing can be positive, that learning can occur from the viewing situation, that specifically reaching achievement can be influenced by viewing, that vocabulary is an important element in positively influencing literacy, that viewing is a verbal activity with a great deal of vocabulary development possible, that networks attempt to provide responsible programming with vocabulary presentation high on the list of goals and that techniques used in language acquisition are used by the current preschoolers' educational programs. What hasn't been obvious from the research is that an understanding of the specific techniques necessary for language acquisition is present in the right amounts and mixture for optimal learning. Inconsistency in the amount of vocabulary presented, lack of creativity and development of proven techniques for language acquisition and the overall lack of clarity in the educational mission of the show indicate areas where improvement could result in greater positive impacts on our society's reading

achievement. Our society is in a stage of adolescence in the ability to harness the power of this medium for achieving the goals at large – learning and growing but still developmentally in need of focus and the skills to execute well.

Television Effects on Language Learning: Review of Related Literature

The concern about the effect television will have on our children is a theme that is expressed by the energy educators, researchers, parents and the media have placed on finding answers to the many questions regarding its influence. Research over the past several decades has focused initially on the impact of viewing on reading achievement. Presently, the factors responsible for the effects are being identified, analyzed and evaluated to determine how to utilize the medium to produce desired literacy improvements – the assumption is that television will be part of our society. Somewhere along the way, there has been an acceptance that television is desired by our society, that its effects are complex – positive, negative, perhaps both – and that we must understand how to use it to our advantage and spend our energy influencing those that have control over the design of programming as well as educating our parents and children about the appropriate ways of using this medium.

Summarizing an article written by Zuckerman, Singer and Singer in 1980, clearly there is concern about the negative effects on children, our society and reading. At this time it is also clear that acceptance of the longevity of television has occurred and that a shift in research toward factors that make it work versus fighting its existence is forthcoming. They discuss: The relationship between television viewing and reading and school behaviors has been explained in several ways. 1. The most obvious is that television viewing "displaces" reading. Displacement may be especially relevant in the elementary school years. 2. From a physiological viewpoint, television viewing may have a deleterious impact on reading because the two activities involve different brain function. Visually presented material is apparently processed primarily by the right side of the brain in a global fashion. Printed material or complex verbal or mathematical sequences seem to engage primarily the left side of the brain. 3. Some researchers have expressed concern that television viewing is enhancing a strong preference for or reliance upon global visual representations. As a result, children, and later adults, will probably be less patient at making the effort required to process auditory verbal material, such as teachers' lectures, or to deal with reading material. 4. Research on the amount of brain activity suggests that there is more extensive and diffuse brain activity during reading than during television viewing. The fast pacing of most television programs may have a negative influence on children's learning habits and expectations. 5. The passive nature of

television viewing is also a potentially important issue. Most television programs are so quickly paced that they do not provide enough time to assimilate the information, consider the "message" or use one's imagination. Television programs rarely offer quiet periods during which the child can engage in the imaginative play that is an essential part of the child's behavioral repertory. "Since reading is a basic skill for effective functioning in society, we have to be concerned about the possibility that heavy television viewing may interfere with the child's development of reading skills." (Zuckerman, Singer and Singer, 1980, p. 168).

However, for all the reasons that television may detrimentally influence our society and reading achievement, they note from a study: "When IQ or socioeconomic status were controlled, the relationships between television viewing and school achievement were no longer significant." (Zuckerman, Singer and Singer 1980, p. 168). They conclude -- "Television is a major new factor in the human environment, and its impact on children's reading and school behaviors is an issue that deserves serious attention. We believe that understanding the relationship between children's program choices and reading and school behaviors can help us to determine how to modify television's impact in order to maximize its benefits to children." (Zuckerman, Singer and Singer, 1980, pp. 173-174).

Reinking & Wu provide a review of research on this relationship between reading and television viewing and highlight the important works that have taken us from a negative position to the present where exploration of relationships is the norm. "The intuitive belief that television viewing was having a wide-spread negative impact on reading guided the research conducted prior to 1980. The lack of clear evidence for this belief has led researchers to adopt a more theoretical orientation in their investigations of television and reading. Instead of looking for evidence of ill-defined negative effects, they have sought theoretical explanations for existing data or have proposed theoretical positions to guide data collection." (Reinking & Wu, 1990, p. 37).

By the early 80's, research did not clearly indicate a strong relationship between television viewing and reading. Either viewing had not had any significant impact on reading or researchers had been unsuccessful in their attempts to discover how they were related. More recent studies indicate that television and reading may be related but that the relationship is extremely complex, involving many interacting variables not often examined in earlier research. An example is cited of a study by Ritchie, Price and Roberts in 1987, where they controlled the reliability of the measurement instruments. Viewing time, reading time and reading achievement were highly correlated and remained stable over the 3 years of study, indicating that television viewing was not affecting either the amount of time students spent reading or their reading achievement. Analysis that did not control for the reliability of instruments supported previous findings that there was a negative correlation. Ritchie, Price and Roberts (1987) suggested four possible explanations for the lack of relationship between reading and television viewing; one of which is that the relationship can only be explained in terms of complex, interacting variables that have offsetting positive and negative effects on reading achievement. (Reinking & Wu, 1990)

Studies post 1980 began by quantifying the relationship between viewing time and reading achievement. "A robust finding from several large scale studies conducted since 1980 is that the relationship between television viewing and reading achievement appears to be curvilinear. That is, up to moderate levels, increased television viewing is related to greater reading achievement, but as viewing time increases above moderate levels, reading achievement decreases. Felter (1983), for example, found that reading achievement tends to increase as children watch more television up to approximately the mean of three hours daily. Above three hours daily, achievement decreases appreciably." (Reinking & Wu, 1990, p. 34) "Neuman (1988) found that the reading achievement of students who were more moderate viewers fell within a much narrower range than those who were heavier viewers. Thus, progressively higher levels of viewing above the mean were strongly related to lower achievement, while moderate levels of viewing below the mean were only weakly related to higher achievement." (Reinking & Wu, 1990, p. 35) Lehr also supports the early research results that viewing up to x hrs./day correlates with greater reading achievement. He quotes a 1982 meta-analysis of 23 studies by Williams and colleagues that showed some

viewing was beneficial, up to 10 hours per week correlating positively with reading achievement. Beyond this amount, the correlation is negative; achievement declines sharply with increased hours of viewing. The NAEP, National Assessment of Educational Progress, surveys from 1980-1984 revealed that students who watch up to 2 hours per day have reading proficiency levels above average for their age groups (5hrs/day for 9yr olds), but that 6 or more hours a day is consistently and strongly related to lower proficiency across age groups. (Lehr, 1986)

Contributing factors were explored post 1980 because of the lack of clear evidence of relationships and thus attempts to understand elements were begun. Studies have looked at a variety of related factors to predict reading achievement from television viewing. Some of these studies included – the type of programs watched (fantasy versus violence), the nature of the student's home environment (parental reading and viewing patterns), the relationship between viewing and other outside-of-school activities, recreational reading, etc. A study by Neuman in 1988 concluded that children engage in reading for leisure because they find this activity enjoyable, not because it is a substitute for watching television. (Reinking & Wu, 1990) "I pronounced as early as 1963 that the more we watch television, the more we will read, because in reality TV is the most important promoter of reading....Another German polling institute call INFRATEST has calculated that 37% of all reading is stimulated by television. The statistical correlation as such is indisputable. The more time people spend viewing television, the more they read." (Steinberg, 1983, p. 510-511)

Roberts & Rockman argue that the effect of television on students' academic performance is mediated by teachers' implicit or explicit theories of how television affects their students. In other words, teachers have beliefs about how television affects their students and these beliefs influence their instructional decisions. "Television's popularity and pervasiveness has generated mixed reactions among reading teachers. On one hand they lament television's seductive power to lure children away from the benefits of reading and they sometimes lobby to reduce its influence. On the other hand, recognizing the inevitability of television viewing, reading teachers have sought ways to turn the perceived disadvantage of television

viewing into an advantage." (Reinking & Wu, 1990, p. 30) Researchers in instructional media have also begun to compare cognitive and affective consequences of learning via television or print. "Recent hypotheses and research questions indicate that researchers in the 1980s have begun to recognize the possibility that television may in some instances have a positive impact on reading achievement." (Reinking & Wu, 1990, p. 39) Morgan (1980) found that students who watched more television when they are younger were likely to read more when they are older. This suggests that television viewing may broaden young children's interests that are pursued later through reading. Thus it is clear the complexity of the relationship and many contributing factors are recognized and are being considered in the research efforts today.

The amount of time children watch television is staggering. (Rice & Haight, 1986) "Youngsters receive large amounts of exposure to the mass communication media. Children in the United States spend more time watching television than they do in school, in social interaction with other family members, or in any other waking activity (Singer, 1983). Children begin viewing during the language acquisition period of development. Infants respond to the sights and sounds of television. Children between 1 and 2 years of age begin to react to particular characters and events on television by pointing, labeling, and selectively attending. By 3 years, American children are regular viewers, averaging more than 2 ½ hr. of viewing daily, as reported in a longitudinal study of 320 preschoolers' home viewing. Furthermore, young children's viewing is attentive. In the home, when the TV is on, children increase the percentage of time looking at the screen from 6% at age 1, to 40% at age 2, 67% at age 3-4, and 70% for 5-6 year olds. It becomes imperative that we begin to examine some of these factors closely and understand how to use this form of communication to an advantage.

Thus far, the historical view of research has been presented with the current focus being factors contributing to literacy. The case has been made that television can have positive effects on reading achievement if bounded by a certain amount of viewing time. Finally, it has been stated that the accessibility to children demands that we act responsibly to influence the development of language and

literacy. Influencing literacy means that we must look for ways books and television can be connected in the minds of the readers. Then we must explore how to manipulate and control the elements of reading that are also present in television viewing. "Children do learn from television, and educators can use its power to improve reading skills and promote leisure reading." (Lehr, 1986, p. 503).

Steinberg demands that we should be looking for ways to use TV to promote reading. Specifically, there has been an attempt in research to identify methods to increase enjoyment and strengthen the quality of reading time. "...there are individuals who are not at all stimulated by TV but there are also those who only read after a TV report has aroused their interest in some topic. On the other hand, a TV production of a novel, which, as experience has shown, stimulates many people to read the book, may prevent others from doing so. The high total figures, however, show the degree of the measurable positive effect." (Steinberg 1983, p. 511).

The methods for connecting books and television are part of a concept called tie-ins; that is, relating in many different ways the viewing and reading of literature and its associated reference materials. Hamilton, Steinberg, Busch and Potter are researchers that have focused on tie-ins and highlight many applications for connecting books and television. Hamilton, 1976, states that when given the opportunity to read television tie-ins related to their favorite television series, his study showed that children will read when their interests are stirred. Television tie-ins, then, can be the bridge to books and reading. A relevant conclusion of his study is that tie-ins were effective in promoting an interest in reading among pupils in a low socioeconomic group and with a low IQ.

Busch proposes a reason for using television tie-ins for at risk students. "Television tie-ins have proven much more popular with low-ability students than with the more intelligent reader. The familiarity of plot structure apparently makes the book seem less threatening....The low-ability student's limited vocabulary is not a major problem in reading tie-in books." (Busch 1978, p. 670) It seems that preschoolers and early readers would benefit from tie-ins for the same reasons: familiarity with the material, concepts and

vocabulary provides a prop for "learning" students. For classroom use, a wonderful suggestion made by Potter in his 1981 article was to have the students watch the programs while reading the accompanying scripts and then teach skill lessons based on the print material. Potter claims that "CBS has its own reading program which provides scripts of special programs to millions of students along with a teacher's guide with derived reading lessons." (Potter, 1981, p. 379) Thus through the example of the networks' attempt to engage children in the art of reading, it is apparent there are many possible ways books and television together can boost literacy. One application that has been the subject of some research is the use of closed-caption television, originally intended for deaf individuals. Children with reading problems, but who have normal hearing, have increased their sight vocabulary and reading fluency after watching closed-caption versions of popular television programs. (Koskinen, Wilson, Gambrell & Jensema, 1987).

Rice conducted several studies searching for elemental factors of literacy attainment inherent within the viewing situation. Her work focuses on language acquisition, specifically vocabulary development, that can be supported by viewing. "While they view, they hear an extensive amount of dialogue. Insofar as children view frequently and attentively, the medium is potentially a major source of verbal information for children at the ages of rapid language acquisition." (Rice & Haight, 1986, p. 282) Other researchers have also looked at vocabulary as being the connective element. Pren (1984) found that children's television programs contain richer vocabulary than children's books. This finding raises questions concerning the degree to which television may contribute to incidental vocabulary learning. Television may also play a key role in helping students learn important vocabulary associated with what Hirsch (1987) has labeled 'cultural literacy.' (Reinking & Wu, 1990, p. 40)

A premise that must be established is that reading comprehension can be enhanced and reading achievement can be greater through the development of a strong verbal and written vocabulary. (Burns, Roe and Ross, 1992) "Because students must call on their existing schemata in order to comprehend, meaning vocabulary development is an important component of comprehension skills (Jones 1982). Therefore, direct instruction in word meanings is a valuable part of reading instruction. Research has

indicated that pre-teaching new vocabulary terms can result in significant gains in comprehension (Roser and Juel, 1982; Carney and others, 1984) and that long-term vocabulary instruction, in which words are taught and reinforced over a period of time, enhances comprehension of materials containing those words (Beck, Perfetti, and McKeown, 1982; McKeown and others, 1983; Robinson and others, 1990)." (Burns, Roe and Ross, 1992, p. 164) In addition, casual learning of vocabulary is important and thus relevant. "Children learn much vocabulary by listening to the conversations of those around them. Therefore, a language-rich environment promotes vocabulary acquisition." (Burns, Roe and Ross, 1992, p. 165)

A few pieces of research found support the premise that vocabulary is worth pursuing as a key variable of television influencing the performance of reading. A study by Mason, 1965, showed that Kindergartners who have had no formal instruction in reading have learned to identify printed words frequently shown and pronounced simultaneously on television. The implications – 1. Teachers' knowledge of television viewing habits may be converted to reading lessons that make use of what children know about televised words. 2. Further research in television word learning could lead to improved reading instruction.

Adams, 1975, reported in surveys of 4th, 5th and 6th grade reading students that low readers believed reading words from TV helped silent reading, that middle ability readers thought spelling was helped and that high reading groups thought that vocabulary was aided by reading words from the TV screen. Most educators would confirm those statements with some anecdote about a small child who learned to read cereal names or other words from the screen. Potter in 1980 states "The TV screens of the world were filled with computerized reading data including abbreviations, symbols, boards, signs, uniforms, all potential reading material. He recommended review of graphic symbols, identifying the formats of score reports, foreign language abbreviation studies, and schoolwide use of TV to promote reading in math and physical education." (Potter, 1981, p. 381)

Some very specific studies conducted looked at exactly how language learning results from viewing and also what characteristics of television programs are desired using existing known models of language

acquisition and vocabulary development. Rice in 1984 describes the language-viewing environment. "A careful description of the verbal language provides a more complete conceptualization of television's messages. When the description of linguistic information is related to other nonlinguistic features and to content, it allows for a realistic account of the full range of information conveyed in television programs. The inclusion of linguistic features in our descriptions of television's messages allows for a greater appreciation of the complexity of the medium's messages and the nature of the psychological processes involved in its interpretation. While the pictorial quality of television may render it easier to process than other media, this is not to say that the medium is only visual nor always easy for young children to understand. On the contrary, these findings reveal that children's television programs can be highly verbal as well as visual. Furthermore, the verbal messages range in complexity from those well suited to children's competencies to those that would pose a challenge. To the extent that higher order symbols, such as verbal language, carry the messages of television, children must call upon more than simple iconic levels of processing, contrary to what current critics claim. The medium may be a string of pictures, but the pictures are accompanied by words that take the viewer beyond the immediate visual information. A satisfactory model of children's mental activity while viewing must take this reality into account." (Rice, 1984, p.461)

How does a child consume these verbal messages? What messages are more easily interpreted? This aspect is perhaps one of the most interesting parts of the research surveyed. "Contemporary models of viewing characterize the child as an active processor of the medium, one who selectively attends, searches for comprehensible content, and retains new information from viewing (see Rice, Huston, & Wright, 1982)". (Rice and Woodsmall, 1988, p. 420) "There is supportive evidence that naturalistic viewing does influence vocabulary development in the positive findings of Rice et al. (in preparation). ... some kinds of word meanings are more readily mapped than others. As predicted, based on developmental sequences, object, action, and attribute words were amenable to quick comprehension. On the other hand, affective-state words were relatively resistant to quick interpretation. The combination of grammatical variability and conceptual abstraction in the case of affective words may have been too challenging for a

fast mapping in the viewing situation. Overall, these young viewers were able to engage in rapid on-line processing of the narration that involved noting the presence of a new word and arriving at an instantaneous attribution of meaning. . . the number of repetitions, coupled with clear, although not exaggerated, depiction of putative meanings." (Rice and Woodsmall, 1988, p. 426)

The hypothesis of lexical acquisition consists of two phases – 1) fast mapping -- when the child first notices a new lexical item and rapidly stores some sort of information about it in memory after a single or very few experiences with it; and 2) "extended" phase which takes place over a much longer period of time -- where the initially fast-mapped representation is gradually refined as the child gleans additional information from subsequent encounters with the word. Children map a "roughed-out" preliminary representation into memory on the basis of very little information about a new word or very few exposures to it. They maintain a large number of these incomplete representations in memory simultaneously and update them as new information about each word is acquired. (Dollaghan, 1985, p. 450) After Dollaghan's study, he concluded that preschoolers do routinely use a specific strategy in their initial encounters with new words, at least in referentially unambiguous situations. This strategy is adaptive in the sense that it enables the child to participate in many communicative exchanges that exceed his/her strictly linguistic capabilities. "...a single incidental exposure to the unfamiliar word and referent enabled a significant percentage of subjects in the present investigation to construct a representation that at least linked the two..." (Dollaghan, 1985, p. 453) "For a significant percentage of children this representation also included some episodic information about the context in which they had first encountered the new word and referent. However, after hearing the new word only two times, nearly half of these subjects had created representations containing enough phonetic information to enable them to recall two of the word's three phonemes in their proper sequence." (Dollaghan 1985) Pinker's model assumes that children rely on situations where a single unfamiliar word is isolated or surrounded by known linguistic contexts, and the situation provides a clear meaning for the word. In some unspecified manner the child infers the matchup between word and meaning.

Also, the findings suggest there are possible positive influences of accumulated linguistic knowledge and/or prior viewing experience. "...in order to be learned the targeted word is not restricted to a single "new" item, surrounded by the familiar, the new word need not be introduced in exaggerated referent-matching situations; the new word is not limited to novel objects or members of a limited semantic class (such as color terms); nor is it necessary to provide the same linguistic context for each presentation of the new word. In short, a minimum of overt salience-enhancing support is adequate for children to parse a new word and arrive at an initial at least partial comprehension of meaning. The simplifying assumptions of contemporary explanatory models are not requirements for young word learners." (Rice, 1988, p. 426)

Prior experience, familiarity, can support the acquisition of language while viewing. A model of child-as-active viewer, where television is intermittently comprehensible, allows for a facilitative effect once a youngster has acquired a basic competence with which to interpret the dialogue. A child's preference to view comprehensible content would allow for extension of linguistic repertoires within established domains. In this model, the young viewer is a selective seeker and processor of information. In the 'television as intermittently comprehensible' model, children view selectively, attending to those portions of programs that are comprehensible to them. Within this account, children monitor the sound track for cues associated with comprehensible content. (Rice & Lemish, 1986)

The context for learning vocabulary that is emphasized in the language-acquisition literature is that of a dyadic interchange between an adult and a child. "In home settings, parents intuitively respond to the medium as a language-teaching device for their toddlers who view. Parents use television, particularly 'Sesame Street,' as a talking picture book (Lemish & Rice 1986). Overall, when embedded in supportive parental interactions, educational television viewing appears to be a situation well suited to language acquisition." (Rice, 1988, p. 421) Her findings are consistent with the everyday observation that preschoolers can "pick up" new words with a minimum of exposure and a minimum of tutorial assistance. The results support the prediction that young viewers can learn new words when watching television, given an appropriate script." (Rice, 1988, p. 426-427)

"Dyadic interactions between adults and children have been widely recognized as a source of linguistic input that is well suited to children's language acquisition. Adults tend to simplify their talk to children in a manner that has come to be known as 'motherese.'" (Rice & Haight, 1986, p. 282) The features of motherese are: emphasis on here and now, with a restricted vocabulary and much paraphrasing; simple, well-formed sentences; frequent repetitions; and a slow rate of speech with long pauses between utterances and after content words. The simplified register is probably facilitative for language acquisition.

Rice & Haight studied and compared the dialogue in two preschoolers' educational show – Sesame Street and Mr. Rogers' Neighborhood. They found the dialogue to be well suited to the young viewer, with adjustments similar to those evident in adults' speech to young children. The mean length of utterance is reduced, the ratio of different words to total words is comparable to that of young children, sentence structure is simplified, and there is a heavy emphasis on the here and now (a majority of present tense verbs, a high proportion of utterances about immediately visible topics or referents, and a preponderance of event casts as narrative structure). The questions used are of the two types previously reported to be associated with children's acquisition of auxiliaries: those of reversals (yes/no questions) and Wh questions. Furthermore, there are indications of explicit attempts to ensure children's comprehension of linguistic forms. There are frequent instances of linguistic emphasis where targeted linguistic forms are stressed, repeated in new linguistic frames, or otherwise emphasized in the dialogue. Key terms appear repeatedly. The proper names of characters are used consistently near the beginning of conversational interactions. In addition, both programs avoid complex word forms, such as ones with nonliteral meanings or novel forms. (Rice & Haight, 1986, p. 286) "Overall, the dialogue of these two children's educational television programs provides a model of language form, structure, and use that is well suited to the young viewer's linguistic competencies." "In short, educational programs create an attentive situation in which they present comprehensible information to young viewers. In this regard, educational programs share with live interactions features regarded as facilitative of language acquisition." (Rice & Haight, 1986, p. 286)

The model of learning to read as an interactive process of engaging the reader, author and text is a social one. Emerging literacy promotes a language-rich environment, with caretaker and child engaged in routine, mutually pleasant interactive story reading sessions. It is this model that Rice used to evaluate child and parent relationships during television viewing. First, it is a social experience. "Even young children view selectively and attentively, as they participate in the ongoing stream of social interactions of the household. Furthermore, they frequently talk about their viewing with available responsive adults. Social interactions with co-viewing adults support children's earliest understandings of the medium and, in turn, introduce new concepts to children." (Lemish & Rice, 1986, p. 254). In a study by Lemish and Rice of children viewing television observed verbalizations were recorded and examined. The four main categories of children's verbalizations during television viewing were found to have strong parallels with interactions reported for parent book-reading. 1. Designating objects, characters, animals and other things on the screen (Child: Pointing, pointing and speaking unintelligibly, verbal labeling with or without pointing, pointing with a question, with an intent to name; Parent: attention calling, labeling, correcting, labeling questions). 2. Questioning about television content (Child: Wh questions, form questions, relating to self questions, operative questions, an attempt to understand what they are viewing and also serve to initiate contact with an adult). 3. Repetition of television dialogue (Child: demonstrates the intent to self-inform) or parental comments about television content (Parent: repetition, acknowledgment, directing behavior, answering questions) and 4. Description of television content (with interpretation and expansions). There are strong parallels between these categories and the categories of interaction reported for book-reading. "Television viewing shares some of the features of the book reading context, in so far as programs appear at the same times, follow the same general routines, recur, and provide some predictable modeled utterances. Yet there are some important differences between the viewing situation and book-reading, even though the interactive outcomes appear to be very similar. Therefore, consideration of those differences can suggest additional contextual variables that contribute to language-facilitative caretaker—child interaction.

"A major difference is that television viewing does not demonstrate the ritualistic interactive characteristics evident in book-reading. This is a consequence of a comparative lack of control of the medium. Closely related to the lack of control is the continuous nature of television's contribution to the situation. The program continues even when the viewer is inattentive. Consequently, there is intermittent engagement of viewers and frequent need to re-establish joint attention. Another striking feature of television is its attractiveness to children and adults. It is perceived as a medium of entertainment, to be used for enjoyment and relaxation.... it can be attended to just for fun. Perhaps because of its inherent appeal, there seems to be a strong desire on the part of viewers to comprehend what is presented. Finally, the combination of appeal and lack of control means that children can view without the active participation of adults. ..." (Lemish & Rice, 1986, p. 268-269) "The viewing context suggests that the following variables be considered as contributors to the quality of verbal interactions between adults and children: 1. The amount of adult control involved or the extent to which the child can participate independently; 2. The appeal of the content – maximum appeal for adults and children depends on a judicious mix of predictable; 3. The continuity of the activity vs. discrete, clearly defined interactive routines; 4. The potential benefit of the child's activity for the adult caretaker or the response cost for the adult." (Lemish & Rice, 1986, p. 269) In conclusion, "The viewing context demonstrates that joint attention, joint reference, extensive labeling and joint consideration of a common topic can be achieved in an ongoing, loosely structured activity when the content is immediately available, appealing to both adult and child, and there are reasons for the adult to sustain the child's participation in the activity. It suggests that labeling is a powerful phenomenon that does not depend on highly specialized circumstances. It also suggests a greater role for content in determining interactive patterns than previously acknowledged. Above all, the viewing context is complex, requiring the child to process many levels of information simultaneously, and to coordinate his own utterances with multiple simultaneous interactions." (Lemish & Rice, 1986, p. 269)

Mothers tend to read picture books with their children in an interactive dialogue-like structure that is a format well suited to teaching children labels for things and people. Routinization of the book-reading

situation and predictability of adult utterances are the two features that contribute to language acquisition. "Television viewing is an activity that is routinized, recurrent and provides predictable modeled utterances. It meets these criteria in two ways. First, the medium itself follows routine formats that recur, and it sometimes provides predictable, simplified redundant dialogue. That is especially evident in the case of educational programs for children." (Rice & Lemish, 1986, p. 252-253) Young children watch reruns of their favorite programs with the same enthusiasm they have for rereadings of their favorite books. Sesame Street deliberately airs the same episodes a number of times. "Secondly, when young children view in their own homes, they tend to watch familiar programs at predictable times in the presence of an adult caretaker." (Rice & Lemish, 1986, p. 253) Clark & Clark assert that children seem not to acquire language from television, based upon the assumption that the dialogue of television is unsuitable for young children and that the passive nature of the viewing experience does not provide sufficient semantic contingency of input. Rice argues that the dismissal is premature, in part because the dialogue of child-directed programs is adjusted for child viewers and because there is evidence that children learn word meanings when viewing (Ball & Bogatz 1970, 1972) and draw upon television as a source of verbal routines for their own play interactions. (Watson-Gregeo & Boggs 1977). "We present evidence that their viewing is not a matter of passive, solitary consumption of the medium, but is instead embedded in a rich verbal interaction that has strong parallels with mother – child book-reading routines." (Rice & Lemish, 1986, p. 253)

Thus, Rice's work has stimulated much thought regarding how language learning results from viewing and what characteristics of programs are desired. She and her colleagues have shown that naturalistic viewing does influence vocabulary development. There are specific types of words which are more readily mapped and hence learned. Those words are introduced with a clear depiction of meaning, repetitively used in the programs and thus, over time, the child refines their meaning as the accumulation of experience and exposure occurs. The environment is one similar to language acquisition at home, features of programs emulate "motherese", the dialogue is well suited to young children's linguistic competencies and programs model story telling sessions – parent-child book reading. Within this model of story telling, shows exhibit similar features such as the routinization of the viewing experience and the

verbalizations of both parent and child. Thus, the entire experience of viewing can be facilitative of the language acquisition process, provided program creators attend to desired features and parents maintain control over the utilization of the medium, participating for the purpose of supporting the development of language.

The study of how television viewing and reading achievement are related is truly complex. Historically, the research has come from looking at global impacts to analyzing the effects of the medium's attributes on optimum verbal learning. It is a field where a great deal of understanding is yet to come. The relevant points to highlight:

- Television viewing can have positive effects on verbal learning and reading
- There are many ways to relate books and television for enjoyment and the pursuit of greater achievement in reading
- Television is an attractive and powerful medium within our culture
- Vocabulary is a basic element in reading comprehension
- Television can positively influence vocabulary development and language acquisition
- Television is a major source of verbal information
- Television, in some cases, contains richer vocabulary than books
- Word learning occurs while viewing
- Certain characteristics of television programs are closely matched to the styles and methods of naturalistic language acquisition
- Preschoolers' educational programming does exhibit traits of language acquisition

Thus, the review of related literature has been fruitful. It has provided the necessary background to begin an investigation of the current preschoolers' educational shows for evidence of nurturing language, reading and verbal skills.

"What remains to be determined is how children attend to the stream of words presented, identify a novel item, enter it provisionally into their available lexicons, assign it a tentative meaning, and store it for

immediate or later use, all on the basis of a few fleeting presentations. As we discover the features that contribute to children's language learning, they can then be incorporated into broadcast programming or special tutorial videocassettes, a possibility to gladden the heart of the many parents who wish the appeal of the medium matched its value for their children's development." (Rice and Woodsmall, 1988, p. 427) These words by Rice and Woodsmall recommend very specific action to be taken in future research and of course their perspective is the extension of the vocabulary development work done. There is much to be explored by researchers about the complex nature of the overall relationship between reading and television viewing. Reinking & Wu, 1990, quote Hornik as saying in 1981 that "researchers have not even approached the frontier of what is investigable about [television's] impact on schooling". It is possible that this broad statement made in 1981, quoted as applicable in 1990 is still true today – 1996.

References

Adams, Anne H. and Harrison, Cathy B. "Using Television to Teach Specific Reading Skills." The Reading Teacher, vol. 29, no. 1 (October 1975), 45-51.

Burns, Roe and Ross. Teaching Reading in Today's Elementary Schools. Houghton Mifflin Co., Boston, MA, 1992, pp.164-199.

Bush, Jackie S. "Television's Effects on Reading: A Case Study." Phi Delta Kappan, vol. 59, no. 10 (June 1978), 668-671.

Dollaghan, Chris. "Child Meets Word: 'Fast Mapping' in Preschool Children." Journal of Speech and Hearing Research, vol. 28, no. 3 (September 1985), 449-454.

Hamilton, Harlan. "TV Tie-Ins as a Bridge to Books." Language Arts, vol. 53, no. 2 (February 1976), 129-131.

Lehr, Fran. "ERIC/RCS Report: Television Viewing and Reading." Language Arts, vol. 63, no. 5 (September 1986), 502-504.

Lemish, Dafna and Rice, Mabel L. "Television as a Talking Picture Book: A Prop for Language Acquisition." Journal of Child Language, vol. 13, no. 2 (June 1986), 251-274.

Mason, George E. "Children Learn Words from Commercial TV." The Elementary School Journal, vol. 65, no. 6 (March 1965), 318-320.

Pinker, Steven. The Language Instinct. W. Morrow and Co., New York, 1994.

Potter, Rosemary Lee. "The Link Between Reading Instruction and Commercial Television: Is This A Bandwagon?" Journal of Reading, vol. 24, no. 5 (February 1981), 377-382.

Reinking, David and Wu, Jen-Huey. "Reexamining the Research on Television and Reading." Reading Research and Instruction, vol. 29, no. 2 (Winter 1990), 30-43.

Rice, Mabel L. "The Words of Children's Television." Journal of Broadcasting, vol. 28, no. 4 (Fall 1984), 445-461.

Rice, Mabel L. and Haight, Patti L. "'Motherese' of Mr. Rogers: A Description of the Dialogue of Educational Television Programs." Journal of Speech and Hearing Disorders, vol. 51, no. 3 (August 1986), 282-287.

Rice, Mabel L. and Woodsmall, Linda. "Lessons From Television: Children's Word Learning When Viewing." Child Development, vol. 59, no. 2 (April 1988), 420-429.

Steinberg, Heinz. "Reading and TV Viewing – Complementary Activities." Journal of Reading, vol. 26, no. 6 (March 1983), 510-514.

Zuckerman, Diana, D. Singer and J. Singer. "Television Viewing, Children's Reading and Related Classroom Behavior." Journal of Communication, vol. 30, no. 1 (Winter 1980), 166-174.

Appendices

Appendix A. Episode Recording Dates

Dates	PBS Sesame Street	PBS Barney	PBS Arthur	NICK Busy Town	NICK Rupert	NICK Allegra's Window	NICK Gullah, Gullah Island
12/30/96	X	X	X	X	X	X	X
12/31/96	X	X	X	X	X	X	X
1/1/97	X	X	X	X	X	X	X
1/2/97	X	X	X	X	X	X	X
1/3/97	X	X	X	X	X	X	X
1/13/97	X	X	X	X	X	X	X
1/15/97	X	X	X	X	X	X	X
1/16/97	X	X	X	X	X	X	X
1/21/97	X	X	X	X	X	X	
1/24/97				X	X	X	
1/27/97	X	X	X				
1/31/97							X
2/5/97							X

Appendix B: Quantitative Vocabulary Evidence

Episode	*Sesame Street	*Sesame Street	Barney	Arthur	Total PBS
1	47	47	34	23	151
2	119	119	67	68	373
3	109	109	85	67	370
4	113	113	92	59	377
5	75	75	50	51	251
6	94	94	84	62	334
7	101	101	97	56	355
8	102	102	124	83	411
9	105	105	83	72	365
10	110	110	74	62	356
Total	975	975	790	603	3343

*Show one hour in length; evidence divided in half for equivalent view of other half-hour shows

Episode	Busy Town	Rupert	Allegra's Window	Gullah, Gullah Island	Total NICK
1	51	60	30	46	187
2	125	87	43	96	351
3	123	60	57	71	311
4	137	53	31	54	275
5	135	49	67	70	321
6	131	84	53	48	316
7	126	74	49	43	292
8	126	66	54	37	283
9	105	33	27	92	257
10	95	51	38	66	250
Total	1154	617	449	623	2843